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Rumph to Donk: Pre-Indonesian Mycology and Biography

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Abstract—Marinus Anton Donk, born in pre-Indonesia and resident during the last years of Dutch Colonial rule, fell heir to a history of mycological studies traceable to the 1600s. Rumphius, Juhnhuhn, Zollinger, von Höhnel, van Overeem, and Boedijn were some of his predecessors. He survived cruel treatment while under Japanese incarceration during World War II, to become Head of the Herbarium in Bogor (formerly Buitenzorg), Java. Indonesia. In middle age, he moved to the Rijksherbarium in the Netherlands and further established his reputation in the taxonomy and nomenclature of the Hymenomycetes, a large group of basidiomycetous fungi. He was lauded and feared by numerous mycologists before he died prematurely in 1972. Occasional contemporary (chiefly mycological) personalities are included here as well as personal Donk communications to others.

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CHAPTER 1. INTRODUCTION

The era in which the countries of Europe exploited their far-flung colonies for mercantile goods, was accompanied by scientific information gleaned from specimens and observations often by men (and occasional women) associated with the commercial intercourse. It was so for the Dutch East Indies (also known to the Dutch as Dutch India). That vast archipelago took its place with French Indo-China, and British India and Ceylon. By and large, the indigenous peoples were not treated as equals by their invaders, and the term "colonialist" came to denote a certain privileged life style.

The subject of the present narrative, Marinus Anton Donk (1908-1972; Fig. 1), was a relative late arrival in the mycological exposure of the Dutch East Indies. His life was anything but prosaic, with several existential ebbs and flows. A man both admired and detested, but hardly known today.

Close examination of Donk's written oeuvre tells the story of a career of continuous mining of obscure bibliographic data in order to bring some semblance of order out of nomenclatural chaos. What could be an arid subject was brought to life by his unique (in his day) first-person delivery and frank criticism of those who he found less than perfect; glad-handing was not one of his personal skills.

Donk was not a "do-gooder." He did not think in classless terms. In his closing years in The Hague, the Donk apartment looked down on a park across the street. One evening, our conversation turned to "the welfare state" as a basic difference

Fig 1. Marinus Anton Donk. Snapshot. Date and source unknown.

in our countries. While he was not given to complaining about the Dutch health-care system, for instance, which was quite extensive and adequate, he gestured across the street where a man was picking up small bits of trash. "You see that man?" he asked. "He is paid almost as much as I," he continued, but not in a conciliative tone. (Donk, pers. comm.) There must be clear distinctions within the society; some sort of meritocracy. His thoughts were clear, but not obvious was his long residence in a world where castes were clearly understood.

2022 marks the 50th anniversary of Donk's death. Like most lives ended a half-century ago, detailed information is now hardly rich, but not totally missing, for a few of us are still alive and can furnish personal anecdotes. In retrospect, Donk seemed to take some special interest in me and/or my mycological work, so we spent a good deal of time together on both continents under various circumstances. The narrative below hopefully, tells that story. The illustrations introduce some of the players featured in the plot and some of their products.

One note on the text: "[xxx]" denotes page number in literature cited in text

Part I. Dutch East India: A Heritage Of Mycology

CHAPTER 2. RUMPH'S FLORA

A reader might wonder whether a narrative stretching back to the 17th century is necessary to tell the story of a man conceived in the 20th, but every individual is born into a family, a geopolitical context, and a time frame. And so it was with Marinus Anton Donk, born and raised in a tropical climate and a colonial society, survivor of cruel imprisonment by Japanese invaders and subsequent independence revolution, emigrant to Europe, attainment of high regard in his field, and untimely death at the age of 64.

On maps of 17th century Europe, names and boundaries appear quite different than those in the present. Controversy over ego, real estate, and control of the high seas played out in perpetual wars among Britain, France, Portugal and Spain. Less than a century had passed since Columbus sailed west hoping to reach India, known to be far to the east. Portuguese, Dutch and British adventurers had rounded southern Africa and were exploring the Pacific Ocean landmasses, in order to control their surces of spices and tea (Baas & Veldkamp 2013).

The Dutch East Indies Company came into existence in Amsterdam in 1602 (Dutch East India Company 2022). It was innovative in being public — shares could be purchased by anyone with the money to do so. Once the riches of the Pacific tropics had been sampled and brought home to ovation, the well-

supported company metastasized on two levels: establishment of trading posts to buy, process and ship profitable native products, and domestication of the natural products on land either developed by or expropriated from the indigenous people. The main spices remained the primary money-makers throughout the two centuries of the Company: pepper, nutmeg and mace, cloves, and cinnamon, plus Chinese tea, established in Java, and soon added to the cargoes of the Company's ships (Dutch colonialism 2022).

Dozens of trading posts sprouted up of course, varying by the size of their territory, their mercantile volume and company profit. In short, these pale-faced strangers arrived in their sophisticated ocean-going ships prepared to subjugate the natives, buy or steal items often locally considered mundane, load their ships and remove them to unimaginable destinations.

At the turn of the 17th century, in 1607, the Jamestown colony sputtered on the Atlantic coast of North America. In 1620, a band of religious exiles set foot along the coast of North America at a place later known as Plymouth Rock, and in 1619, a small ship was blown off its course, resulting in a small group of African natives delivered as slaves near an English settlement farther south. These were the earliest, albeit modest, European fingerprints in a foreign land with an indigenous population of humans who lacked firearms. The situation could be compared to the Dutch in the East Indies in the same century.

In rural Germany, in the small town of Hanau, Georg Eberhard Rumph (1628-1702; Wit 1952; Baas & Veldkamp 2013; for a biography differing in some details see Curiosity Cabinet 2022; Fig. 2) was born of a Dutch mother who passed on to him her native language. At 18, Eberhard set sail on a Dutch vessel bound for Brazil, captured by the Portuguese and rerouted. Rumph spent three years in Lisbon before returning to Hanau to work with his father, an engineer. After his mother's death in 1652, Rumph joined the military branch of the Dutch East Indies Company and sailed for Batavia (now Jakarta).

Meanwhile, local and regional civil and corporate governance throughout the Dutch East Indies had been established by the Company. Quasi-civil institutions, bureaus, courts, etc., closely imitated those of the home country, in this case, Holland. Corporate governance was less codified, but both clearly stratified personal status. The Dutch, regardless of wealth or occupation, were treated with a certain respect (by fellow Dutchmen); the indigenous peoples, regardless of occupation, were not perceived as equal (also by the Dutch). The regional headquarters of the Company were located at Batavia (now Jakarta) in the western section of the large island of Java, but far to the east, the Moluccas were a galaxy of smaller islands. One such region comprised the island and town of Ambon, and it was in Ambon that middle-aged Rumph arrived (Wit

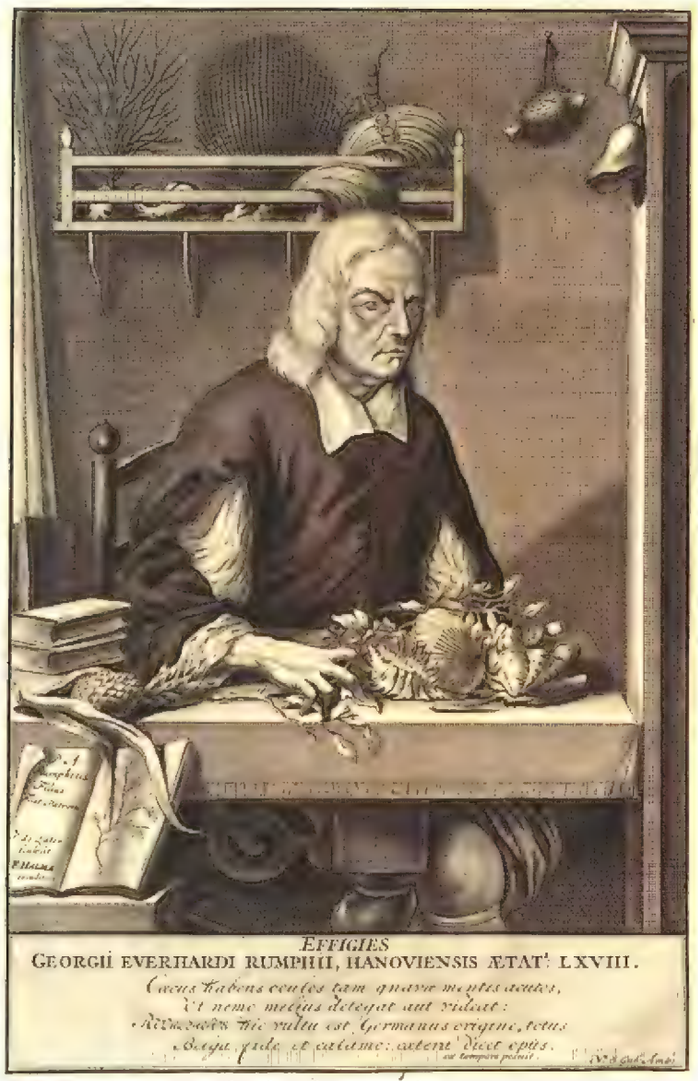

FIG 2. Georgius Eberhardii Rumphius. Frontispiece for Flora Ambonensis. Cicrum 0.7×.
Note: even in this reproduction, Rumph's eyes appear blind and he is feeling the plants before him.

1952). As recounted above, his earlier life was anything but stable and his position in the Company was in its military contingent, not its mercantile. Baas & Veldkamp (2013) told the story as follows. "After some weeks in Batavia he was put under the command of the very cruel Arnold de Vlamingh with whom he set sail to Ambon in the Moluccas to fight in the complex Moluccan wars, motivated by the [Company] to maintain their world monopoly in the clove and nutmeg trade by ruthlessly cutting down orchards that would produce spices in excess to be sold to Portuguese, English, and other traders. Destroying the livelihoods of the local populations was one of the goals of these cruel campaigns." Whether common or rare, Dutch rule was not designed nor delivered to be benevolent or to engender good will between the rulers and the ruled. Instead, the story of the 17th century sowed the seeds for the 20th century independence movement.

It was not long before Rumph petitioned the Company to change his classification from military to mercantile, and once approved, Rumph not only functioned in Company business as "Merchant," but had time to expand a healthy interest in the local natural flora (Fig. 3). Despite cataclysmic events, including deterioration and eventual loss of eyesight and sudden death of his wife and daughter in an earthquake, he (with his name Latinized to Rumphius) persevered in writing and illustrating his Flora Ambonense (Flora Ambonense 2022; Beekman 2011). Even this accomplishment was fraught, when the original version dispatched to Amsterdam via Batavia was lost at sea. Luckily, the Company Governor in Batavia had had the entire work copied and when

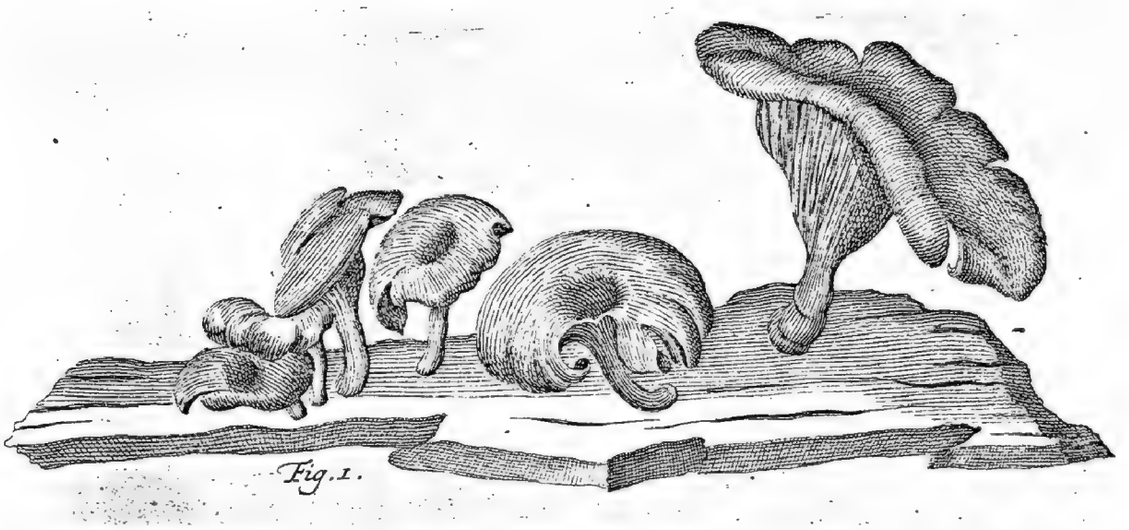

Fig 3. Flora Ambonensis. Wood cut of Lentinus sajor-caju. Approx. 0.7×. Source: Flora Ambonense 2022.

the original was lost, he commissioned yet a third copy. Once the second-generation materials reached Amsterdam, though, they were protractedly massaged by Johannes Burmann (1706-1770; Burmann 2022), a pre-eminent Dutch botanist who translated the massive text into Latin from Rumphius's Dutch. Burmann was a good friend of Carl Linnaeus, the two spending some weeks together around Amsterdam when Linnaeus visited Holland in 1735. Rumph's magnum opus was published in six folio volumes from 1740 to 1750, nearly a half-century after his death, and it was Burmann's only introduction to the Dutch East Indies (Flora Ambonense 2022).

Because at that time, and for over two centuries following, fungi were

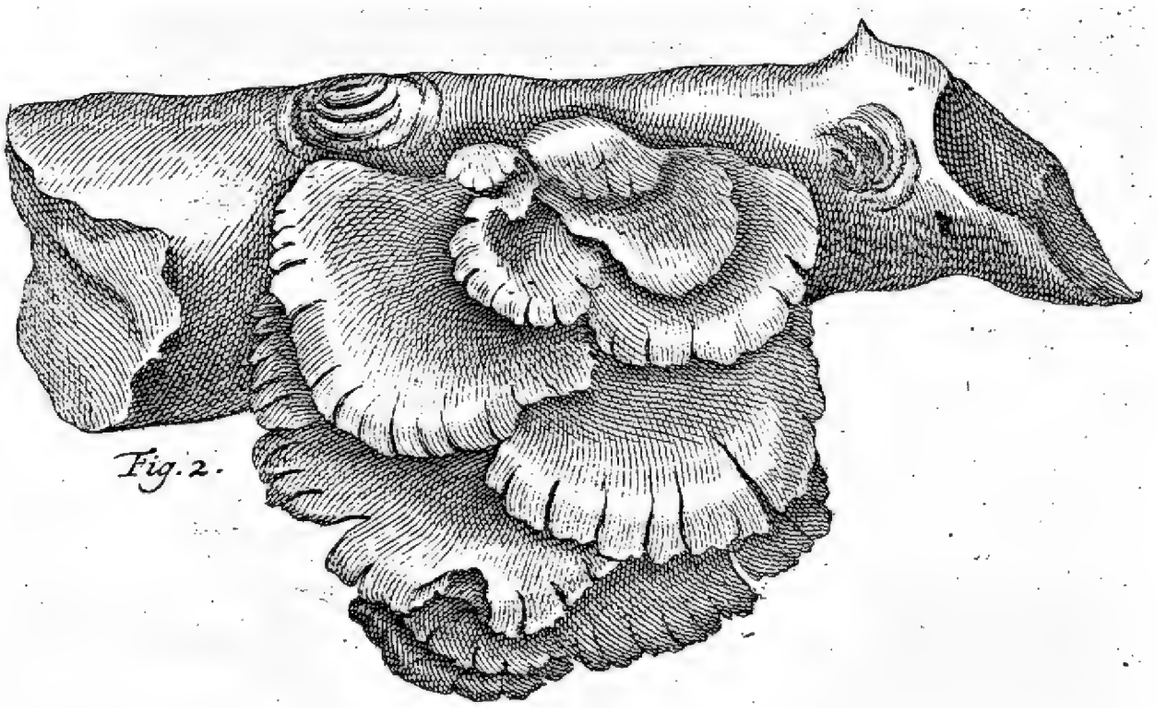

Fig 4. Flora Ambonensis. Wood cut, perhaps Schizophyllum. Approx. 0.7×. Source: Flora Ambonense 2022.

treated as a strange form of plant life, some mushrooms and their relatives were included in volume six of Rumph's Flora. Several fungi were described, discussed and illustrated, and although their modern names and classification have caused understandable confusion, their inclusion by Rumph represented the first inclusion of fungi, and therefore mycology, from the Dutch East Indies. No Rumph herbarium survived so examination and comparison to dried material is not possible, but surely a pleurotoid fungus, perhaps *Schizophyllum* (Fig. 4), a lentinoid fungus labelled as "tuber regium," now applied for a pleurotoid species, and a phalloid, surely a *Dictyophora* (Fig. 5) were included. A mycenoid agaric and something akin to Thelephoraceae were also depicted.

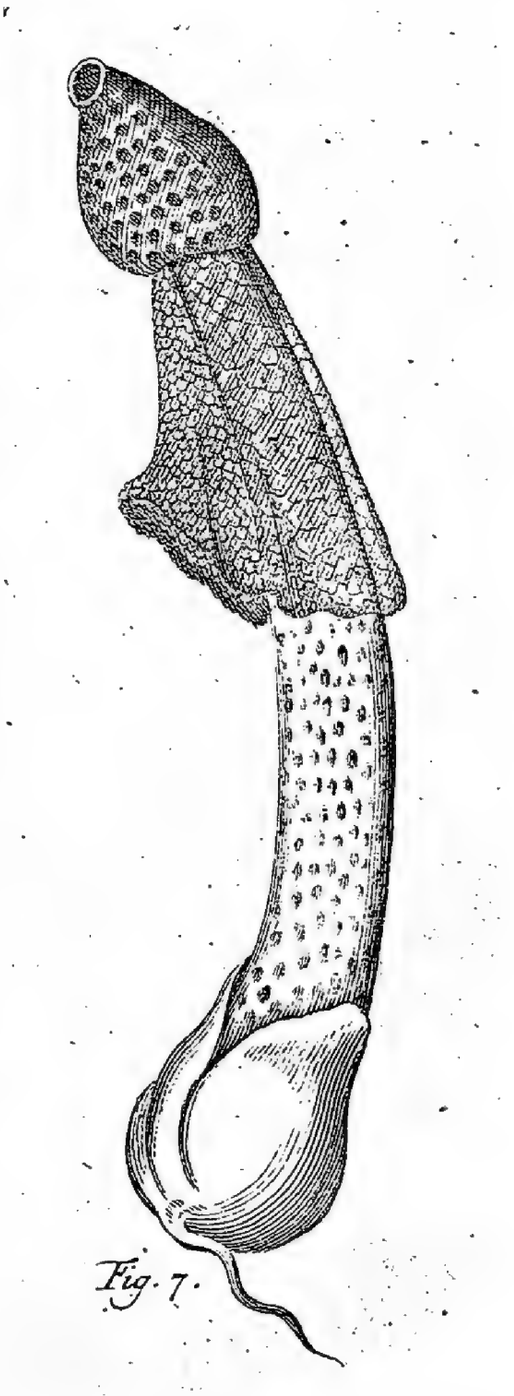

Fig 5. Flora Ambonensis. Wood cut. Approx. 0.7×. Source: Flora Ambonense 2022.

Starting in the early 18th century, empirical mercantile competition from the other European powers expanded, and the Dutch Company began to falter. Sugar provides an example: it had been introduced to Holland by the Dutch Company, and by the early 1700s, Indonesian sugar was matching the Caribbean supply by Britain and France in satisfying the appetite of an insatiable Europe. But, in this case, Portugal was not sleeping, and from 1720 on, the market for sugar from Indonesia declined as the competition from cheap sugar from Brazil increased. Dutch ships (and crews) were idled. European markets became saturated. For the Dutch, the chief source of human labor in the sugar fields had been imported from China and the market downturn led to massive unemployment, which in turn led to serious social unrest by gangs of unemployed "coolies." The Company government in Batavia hardly responded to these problems, and rumors of deportation of the labor force from the Batavia area led to widespread rioting. The Company military searched for

weapons in houses of Chinese in Batavia, and when a house accidentally burned down, military and impoverished citizens began slaughtering and pillaging the Chinese community. This massacre of the Chinese was deemed sufficiently serious for the board of the Company to start an official investigation into the Government of the Dutch East Indies for the first time in its history.

Although professional interest in the Pacific tropical flora continued by individuals, no meaningful mycological contribution was published for over a century. The timeline was not without tumult, but space dictates brevity here. Long before Rumph's death in the far-off East Indies, a series of wars enveloped the leading powers of Europe, including four successive wars rightly called the Anglo-Dutch Wars. Causes were varied but always included the rights and privileges on the high seas. The British Navy dominated the waters around India and Ceylon, the Dutch East Indies Company controlled the waters among and surrounding the islands later to be called Indonesia, and the French held the Indochinese Peninsula. The pivotal battles, however, took place in the waters around Britain and Holland, with the winners alternating over the years. The fourth Anglo-Dutch war, however, had an additional flavor; its dates should serve as a clue: 1780-1784 (Fourth War 2022).

The Dutch Republic had already established a stance of remaining neutral while the other European powers pummeled each other. That way, the Dutch could continue trading and harvesting profits from both sides as well as from bystanders. In particular, the British took umbrage at the tactics of the Dutch, and in the case of the Fourth War, the second warring party comprised the thirteen colonies along the eastern coast of North America. An uneasy agreement allowed the Dutch to trade goods with the North American belligerents. After all, the Dutch Empire stretched from the Caribbean to northern South America, the southern tip of Africa, and the East Indies. The Dutch government, however, managed to "look the other way" regarding occassional shipment of armaments and other military items to their own Caribbean Islands where the Americans could pick it up — a violation of the agreement and the chief cause for a war. While most of the confrontation consisted of naval battles far away from the home countries, some skirmishes took place off the coast of Holland. The result was humiliating for the Dutch. When the Dutch East Indies Company lost roughly half its fleet, communication between the mother country and its empire was disrupted. In late 1799, the Company was dismembered, and the Dutch government nationalized what was left. The result in the East Indies was little. Governance remained a caste system with the native population treated as inferior. The "developed world" of Europe was far different at the start of

the 19th century than at the time of Rumph, but the Pacific tropics was still mycologically underdescribed.

The defeat of the European lowlands during the Napoleonic Wars included surrender of most of the Dutch outposts to France, even the far-off East Indies. The demise of the Dutch East Indies Company hollowed the country of an oceangoing fleet. The turn of the 19th century was spent under French rule. As the defeat of Napoleon proceeded, though, France fell back from its far-flung empire, and in a series of amphibious landings and skirmishes on Java, the island fell to the British. It was not until 1811, and the London Treaty, that a great exchange of empires took place, with the East Indies passing back to the Dutch Republic. Since many of the bureaucratic posts had remained manned by Dutch individuals through the interregnum, life in the East Indies, including the rather harsh stratification of society, varied little across the years of "occupation."

CHAPTER 3. JUNGHUHN, ZOLLINGER, AND LÉVEILLÉ

At the outset of this chapter, the reader is directed to the publication by husband and wife van Overeem (1922), which constitutes a list of myxomycetes, fungi and lichens collected in the Dutch East Indies prior to 1920, together with a complete bibliography. The data therein are the best available. The narrative below simply adds some context to their summary.

Junghuhn. The turn of the 19th century was an unsettled time. The French Revolution had lit a torch now in the hands of Napoleon Bonaparte (1769-1821), and a series of battles was on the horizon. Franz Wilhelm Junghuhn (1808-1864; Junghuhn 2022; Fig. 6) was born in Mansfeld, Germany, at the eastern end of the Harz Mountains. Junghuhn's father had been educated in medicine, and encouraged Franz to follow that profession, and, indeed, Franz studied medicine in Halle, some kilometers southeast of Mansfeld. How he developed an interest in the fungi of his region is unknown, but as a medical student of age 22, he published a paper in Linnaea, the leading German botanical journal of the day (Junghuhn 1830, Schmidt 1909, Weber 2012), reporting numerous fungi from central Germany.

Most fungus names were attributed to previous workers, but also listed were several taxa of his own, which some might have thought brash. Notable were references to Christiaan Hendrik Persoon (1761-1836), the South-African botanist/mycologist who had lived for some years in Göttingen at the other end of the Harz Mountains. Although Elias Magnus Fries's (1794-1878)

Fig 6. Francisco Junghuhn, portrait. Source: Junghuhn 2022.

third volume of Systema Mycologicum was still two years away, volume one was cited several times. August Johann Georg Karl Batch (1761-1802), who worked in nearby Halle during his life, was also cited. Junghuhn's preparation in Halle was finished with time in Berlin, but graduation did not take place.

It has been reported that Franz suffered periods of deep depression (Junghuhn 2022). Whether this was manic-depressive cannot now be diagnosed, but there was a life-changing experience in store just as his paper appeared. While a student, he participated in a duel with a fellow student over a 'matter of honor,' resulting not only in his opponent's death, but also, tangentially, his failure to graduate (Weber 2012). As the perpetrator, Junghuhn was sentenced to ten years in jail in 1831. "While waiting for the pardon by the Prussian king in the fortress of Hohenbreitstein he fled to France, where he was well-received as a political refugee. Because he wanted to go to a southern country, he joined the Foreign Legion and was sent to Algeria in 1834. But he was soon disappointed and asked to be dismissed. Although in the meantime he had been pardoned by the Prussian king, he did not want to return to Germany" (Salazar 2010). He took up residence in Paris, and sought advice from Christiaan Persoon, who suggested that he enter the Dutch colonial service in the East Indies. Assigned as a second-echelon medical officer, Junghuhn sailed for the East in the summer of 1835 and arrived in Batavia (Jakarta) in October.

Junghuhn was a devotee of Friedrich Wilhelm Heinrich Alexander von Humboldt (1760-1859), who was reporting on his explorations/adventures in the Americas, and Junghuhn was disposed to a similar life, especially in the tropics (Beekman 1996). Far to the east in the Pacific Ocean, though, a man

unknown to Junghuhn, or, for that matter, known only to his small circle of friends, Charles Robert Darwin (1809-1882) was aboard the HMS Beagle, anchored offshore in the Galapagos Islands. Initially disappointed that the islands did not appear forested, his curiosity was piqued and over the next weeks, specimens were gathered which undergirded his growing ideas about evolution and natural selection.

It is worth remembering that by Junghuhn's arrival in 1835, the government of the Dutch East Indies was civil, no longer under the auspices of the Dutch East Indies Company.

It did not take long for the Dutch administrators to recognize that Junghuhn's real interest was not medicine, but the natural history of the place. He was reassigned to concentrate on botanical, zoological and geographical studies. He assiduously collected specimens of all kinds, from fossils, shells, to green plants, and fungi. Fungal specimens, of course, were chiefly those that required no special preservation, i.e. the leathery or woody polypores and/or resupinates (Figs. 7, 8). His first mycological paper appeared in 1839 (Junghuhn 1839).

Fig 7. Illustration from Junguhm's Praemissa (1839). Left: Polyporus flavus; right var. orbicularis. Approx. 0.7×.2022.

Written within five years after his introduction to Java, a longish quote is worthy of inclusion. "I have seen very many other Agaricus in the woods of the island of Java, - many (if I am not mistaken,) Europeans, very many different Javanese.

"Being confined in the jungles of time, as it were, flying through the woods and laden with the bulk of plants and other things, that I could not but neglect.

I will examine, if the next time will give me a more favorable condition, and a more favorable opportunity. The largest part of Java, fog inhabits temperate regions, from an altitude of 3,000 to 5,000 feet.

"[Fungi] thrive at all times, scattered, solitary, and do not come

in flocks, nor are we including certain [seasons] of the year, [but] only a few months, especially the so-called mycogenes! — Autumn mycogenus seems to have been produced in the tropics even in the temperate zone all year round, with equal numbers of fungi every season hastening the production of equal strength.

"More rare fungi occur in the region over 5,000 feet, but the mosses are richer; they overwhelm the ground and trunks of trees like little ones, and at the same time they ascend to the summit of the mountains of Java with lichens, nine thousand feet high." (Junghuhn 1839; transl.)

Somewhat prior to Junghuhn's explorations, a botanical garden had been established in 1817, at Buitenzorg (now Bogor) in west Java. A renovation of the estate of the governor-general's "palace" had been laid out by Dr. Caspar Georg Carl Reinwardt (1773-1854). Reinwardt had returned to Leiden in 1822, where he was the Professor of Botany at the university there, but the Buitenzorg Garden had become both an herbarium and collection of living plants, and also an experimental garden in which imported plants were raised initially before introduction in plantations. The Garden's Director during Junghuhn's years in Java was the Dutch botanist, Johannes Elias Teijsmann (1809-1892), who spent a half-century developing the institution.

Fig 8. Illustration from Junghuhn's Praemissa (1839). Polyporus spadiceus. Approx. 0.7×.

In his first years in the Indies, Junghuhn travelled extensively through the Preanger region (now Parahyangan; due south of Bandung and some distance south-east of Buitenzorg). Junghuhn climbed most of West Java's volcanoes, writing some papers on the alpine flora, and in 1845 published a detailed book dealing with the natural history of the island, Die Topographischen und Naturwissenschaftlichen Reisen durch Java (Topographical and Natural Science Journeys through Java). The account vividly related the difficulties of scientific research at that time: for

example, the tropical climate, the impenetrable jungles, and the inaccessibility of large tracts of land. He illustrated the book with many fine drawings (Figs. 7, 8).

Over his first years in the East Indies, Jughuhn's published contributions spanned botany (Junghuhn 1840), mycology (Junghuhn 1839), ecology and cartography (Junghuhn 1845), and travels (Junghuhn 1841).

It would be tempting to cast Junghuhn as a romantic adventurer, akin to Robinson Crusoe, but his basic personality apparently was constantly evident. He was often abrasive to assistants and colleagues, and was rigidly conservative — the indigenous people must be closely governed and treated accordingly.

Having proven his mettle in investigating the natural history of western Java, the central administration commissioned Junghuhn to use his skills to survey the Batak people of Sumatra. Although considered part of the Dutch holdings, Dutch settlement and governance had not been extended to that region, in part due to the primitive state of the indigenous people. The project was to last through 1840 and 1841. Although a manuscript was completed in due time, its publication came only six years after the project ended.

The original manuscript (Junghuhn 1847) was in Dutch, but Junghuhn saw to it that a German translation was also produced. In the German forward, he wrote (Transl): "I hereby submit this to the German reader in the hope that the characteristics of an almost unknown nation of which almost [a single] mere trait — their cannibalism! — has penetrated the ears of the outside world, and a country that has not been visited by anyone in particular will resonate with something attractive, in order to be able to look forward to a favorable reception from my original [German] compatriots as well." Having thus characterized one feature of the Batak, Junghuhn exercised his concept of freedom this way: "The Bataks in Sumatra are superior to the Javanese because 'they are free, no one rules over them, just as no other heights rise above the high plateau where they live.'" (Beekman 1996). Moreover, the Javanese were subservient, which Junghuhn considered even more inferior.

Returning to Java, Junghuhn compiled his notes on the Batak project, and continued his interrupted observations, now including eastern portions of the island, but his health began to deteriorate, and the following year, 1848, he was dispatched to Holland to recover (Junghuhn 1851).

The Europe to which Junghuhn returned in 1848, was in turmoil, with social unrest occasionally leading to revolution.

Junghuhn was not totally bereft of the Javanese forests during his time "at home." In January 1850, he married Johanna Koch, and began an extensive

four-volume treatise on Java entitled Java, seine Gestalt, Pflanzendecke, un sein innerer Bauart (1850-1854; Junghuhn 1854). In it, he criticized attempts to convert the native people to monotheistic religions, which led to some of his work being banned in Austria and Germany for being anti-Christian. Additional papers were based on his copious notes (Junghuhn 1852).

The Junghuhns (now with a son) emigrated back to Java in 1855, but this time Franz was not posted as a naturalist but as a plant inspector, where his responsibility was successful introduction of imported trees before establishing plantations. To some extent, the job must have tested his nostalgia for wild places; most plantations were carved out of tropical forest. For example, he would accept coffee plantations, for the coffee trees were generally small and required shade from taller, more mature trees, whereas tea plants were small, crowded and devoid of overhanging trees. Both plantations required elimination of the native forest.

When Junghuhn returned to Java in 1855, another naturalist, Alfred Russel Wallace (1823-1913) was already on the scene. This young man had already experienced the tropical rainforest of South America and now wished to investigate its counterpart in the Pacific. He was a prolific collector, especially of insects. In eight years, 1854-1862, he amassed over 120,000 specimens, including over 80,000 of beetles and 5000 birds. Also, during Junghuhn's absence from Java, the published treatments of Javanese fungi drew the attention of Elias Magnus Fries (1794-1878), who produced his own summation (Fries 1855).

Wallace's (2008) observations of the marked zoological differences across a narrow strait in the archipelago just east of Java, led to his proposal of a zoogeographical boundary now known as the Wallace Line. He was not the first to observe this anachronism. Some years prior, Miles Joseph Berkeley (1842) had received a batch of fungus specimens from these same locales and had commented: "The Fungi enumerated in the present paper are with two exceptions, the result of researches made during Captain Beechey's last voyage in some of the islands of the Pacific. The collection, though small, is remarkably interesting; consisting principally of the more minute and delicate species, which are seldom attended to. It is curious that they should prove altogether different from those of the Philippine Islands and Java, though gathered chiefly at no great distance from them."

While Wallace was exploring the archipelago, he refined his thoughts about evolution and polished his famous insight on natural selection. In 1858, he sent a paper to Charles Darwin outlining his theory; the paper was published, along with a description of Darwin's own theory in the same year, and his ideas

propelled Darwin (1964) to publish *On the Origin of Species* the next year. A decade later, The Malay Archipelago appeared (Wallace 2008), an expansion of Wallace's experiences and conclusions.

Upon Junghuhn's return to Java, one particular plant occupied Junghuhn's time and energies. Cinchona, source of "Jesuits powder," had been the subject of medicine, superstition and warfare since before the days of Rumph (Petersen 2001). The bark of the tree (or trees, for several strains and/or species were claimed as efficacious), dried and powdered, seemed to act as a febrifuge — controlling high temperature — but had remained a product of the slopes of Bolivia, Ecuador and Peru. The saplings introduced into Java were now to be grown commercially, but only if they could be ameliorated to Javanese conditions.

The project encountered serious difficulties before finally achieving success. Junghuhn's first plantations were at Tjibodas (now Cibodas; Mt. Gede; far eastern Java; where Cinchona trees are still exhibited at the Botanical Garden) and Pangalengan (Mt. Malabar, near Bandung, western Java). Junghuhn's belief in the effectiveness of quinine-yielding cinchona as a treatment for malaria was contested by Teijsmann, the Hortulanus at Buitenzorg, but eventually Cinchona plantations thrived in many parts of the Preanger region, with Junghuhn in the official capacity of government inspector of the plantations.

In spite of his experience with quinine, it was of little help when Junghuhn began to suffer from liver disease. He died in the midst of Javanese forest in Lembang, near Bandung, in 1864. A memorial to him was erected there. His last publication, posthumously, appeared in 1867 (Junghuhn 1867). A forward by A.W. Kroom reported (transl.) "In the spring of 1864, the Indies Overland Telegraaf reported that Dr. Franz Wilhelm Junghuhn, the noted naturalist, April 24, 1864, at Lembang, in the Preanger Regencies, was overtaken. These unexpected tidings filled the hearts of all the friends of the deceased with the deepest mourning, because they had failed to congratulate him sooner on his wealthy purchase in the Netherlands [assumed to refer to a home], since Junghuhn had conceived the intention of restoring his weakened health, and spend some time in Europe.†"

Zollinger. To this amateur historical researcher, some dates in the life of Heinrich Zollinger (1818-1859; Fig. 9) connect with those of Junghuhn. Equally, their lives and ambitions also coincided. For Junghuhn, fungi were just one of many life forms confronted in the East Indies, while for Zollinger, mycology was a more important aliquot, although hardly exploited by Zollinger himself.

Zollinger was born in Feuerthalen, Switzerland, quite near the German

border, and obviously German-speaking. He trained as a teacher. For a single year, 1837-1838 he interrupted this career to study botany under Alphonse Pyramus de Candolle (1778-1841) in Geneva. One source indicates that these studies were terminated due to lack of financial support (Zollinger 2022). He must have excelled, for another source reports that on the advice of his teacher, Zollinger was appointed by the Dutch government as an official plant collector and shipped out to Java in 1841 (Zollinger bis 2022), just six years after Junghuhn's arrival. He was 23 years old. His headquarters was the Botanic Garden at Buitenzorg, and it is almost certain that he met and knew Franz Junghuhn.

Fig 9. Heinrich Zollinger. Source: Zollinger 2022.

Stafleu & Cowan (1988) reported that Zollinger worked in de Candolle's herbarium — in Switzerland — in 1845, but he was back in Java shortly thereafter. In early 1847, he was sent to report on the volcano Mount Tambora, to the east of Java on the smaller island of Sumbawa. The volcano had erupted catastrophically in 1815, and was still smoldering over 30 years later. He was the first explorer to climb to the rim, where he studied the geology of the eruption. As directed, he also recovered plant specimens which survived the harsh environment. At the highest point, he measured the height at about 9,000 ft above sea level, although the original height of the volcano before the eruption had measured 13,000 ft!

According to van Steenis (1950), "It had been arranged [with de Candolle] that A[lexandre] Moritzi [1807-1850; botany professor at Solothurn, Switzerland] should name and distribute Zollinger's plants, and in 1844 a first consignment reached Europe." Zollinger's industry was evident; the consignment comprised over 20,000 specimens, including a thousand species. It is understandable that not all specimens were found to be well prepared. "... Zollinger is the one collector of many very rare species in East Java, some of which waited rediscovery for more than half a century." (Steenis 1950)

The first publication dealing with Zollinger's collections of fungi appeared in 1844, in the first volume of the local nature journal, a journal destined for

only three volumes. Although the paper was unsigned (including in the table of contents; Anonymous 1844), the extensive introduction was unmistakably Zollinger's. Citation of authorship of taxa was concise (transl. from Dutch): "The following observations contain not only new genera and species, but also additions and considerations of the characters and descriptions of already known ones; the new names as 'Zollinger and Moritzi.' The second name is that of the diligent natural researcher Alexander Moritzi, Professor at Solothurn [Switzerland], with whom I have associated myself for a later edition of a Flora Malaijana. Where no author name has yet been attached, however, we must reserve the right of priority.

"I did not venture to add a name until Mr. Moritzi also examined the plants and really recognized them as new. He has at his disposal the necessary scientific aids, of which I am here lacking many of the most necessary, and I thought it better to wait for his confirmation as well, than to prematurely overload science with names that would later be worthless."

For his part, Moritzi published a Systematisches Verzeichniss (Moritzi 1845-1846); it dealt with five of Zollinger's consignments, collected from 1841-1844. Taxonomic Literature-2 lists Joseph-Henri Léveillé as a co-author, and indeed, his name appears as author of the lion's share of fungi.

Not entirely pleased with Moritzi's (1845-1846; Anonymous 1846) descriptions, Zollinger learned to describe his plants at the moment of collecting. Being a man of distinct opinions once he had acquired the data on which to judge, he gradually preferred to take an active part in the description of his finds. He published Observationes Phytographicae, a series of six papers, the last of which appeared in 1847" — (van Steenis 1950; TL-2 dates this as 1846). Later, Moritzi would be recognized as a pre-Darwin evolutionist (Friedman & Endress 2020), which may have led him in taxonomic directions not aligned with those of Zollinger.

Later in the same year (1847), Zollinger learned that he had been recommended, back in Holland, to become Curator of the Buitenzorg Botanical Gardens but the position was awarded to a Dutch botanist (Zollinger was Swiss). Disconsolate, he returned to Switzerland, where he was appointed Director of a Teachers Training College in 1848, just as Junghuhn was also returning to Europe. Zollinger was just 30 years old; Junghuhn 40. Zollinger's activities during his time "at home" recouped his teaching occupation. He also married and started a family. But in time, his thoughts returned to Java, and in 1855, he was able to return, this time with wife and family. Parenthetically, just a year prior, 1854, ships from the U.S. North Pacific Exploring Expedition landed in Batavia and spent three months surveying the north coast of Java, but

made no collections (Pfister 1978).

In order to finance his trip, Zollinger created a prospectus that offered to send a number of rare plant specimens to subscribers of such, if they were willing to underwrite his expedition with 200 Swiss Francs each. All parties anticipating possible bodily danger, he insured his life generously enough to fully refund the subscriptions in case of catastrophe (Zollinger bis 2022). The list of subscribers has been lost, but once in Java, he found it difficult to finance collecting trips, and he became involved with a Dutch company intent on introducing coconut to the East Indies. He seemed to have had ample time to explore aside from his official duties, as he continued to send collections of plants back to Switzerland and Holland.

Zollinger fell ill in the village of Kandangan during an expedition to Mount Bromo in East Java. Like many foreigners, he had been suffering from the long-term effects of malaria, leaving him in weakened condition. He died there on the 19th of May 1859.

Although Zollinger, like Junghuhn, was a naturalist, Zollinger prepared an unusually high number of mycological specimens. In addition to the usual woody or leathery basidiomata which required little preparation, he also pressed and dried some fleshy examples.

By agreement reached in his absence, Zollinger's fungal specimens were passed from Moritzi to Joseph-Henri Léveillé (1796-1820) at that time, age 48.

Blume. Although a stellar botanist and leading botanist of his day, Carl Ludwig Blume (1796-1862; Fig. 10)) played only a tangential role in the story of mycology in the Dutch East Indies. His time in Java, with interactions with Junghuhn, Zollinger and others, elevated his role in the mycological parade. In the narrative below, much has been extracted from (van Steenis Blume 2022), which includes a long and interesting biography.

Born into a merchant family in Braunschweig, Lower Saxony, he was orphaned at five. By whom he was raised is not known, but by age 18 he used some of his inheritance to buy rough clothing fit for outdoor activities and enlisted in the "Lützowsche Jägercorps," fighting the French. In 1814, he was commissioned as military apothecary of the second class and as part of an ambulance unit, he was present at the battle of Waterloo.

What followed was a series of military and pharmaceutical appointments, service at the hospital in Leiden, and studies at the University there. He obtained a degree as Doctor of Medicine in 1817 (the year of the founding of the Botanical Gardens in Buitenzorg). It was during those days that he became friends with the brothers Nees von Esenbeck. Before long, he set out for the

tropics.

Shortly after his arrival in Java, in January 1819, Blume was appointed deputy-director under C.G.C. Reinhardt, in charge of the Organization of Education, Medical service, Agriculture, Arts and Scientific investigation. Blume was all of 22 years old. Just as important, though, he lived in Reinhardt's house in the Botanic Gardens in Buitenzorg (Bogor), enlarged for this purpose.

Fig 10. Carl Ludwig Blume. Source: Wikipedia, retrieved 2022.

In the seven years between 1819 and 1826, Blume travelled widely in West and Central Java, as far east as Rembang, often accompanied by assistants, draughtsmen, and interested persons, collecting plants, and also animals; gathering information on all sorts of natural phenomena, including the medicinal value of certain plants, inspecting epidemics, etc.; in short, he was engaged in an overall, thorough scientific exploration (van Steenis Blume 2022).

Parenthetically, one of the entourage was Alexander Zippel (1797-1828;). He was known for the accuracy of his notes on collections passing through his hands, and a few fungi were named in his honor (DBpedia 2022). Like so many expatriated strangers to the tropics, Zippel died prematurely, age 31.

Surely based on Blume's zeal and addiction to hard work in his medical duties, in 1822, Blume was appointed director of the Buitenzorg Botanic Gardens, succeeding Reinhardt, who repatriated to Holland. Only a few months later, Blume was also appointed as "Inspector of Vaccine" and had to attend to his medical-pharmaceutical duties as well. All these duties were shouldered for four years, but after countless bureaucratic delays, in 1826, the Government finally granted Blume two years' leave to the Netherlands at half-pay. The botanical work in the Gardens would be given to the gardeners, including Zippelius. By the end of 1826, Blume was in Brussels, accompanied by chests of specimens as well as many living plants. By far the main part of the collections had been made personally, but others had been gathered by

colleagues at Buitenzorg, ranging from Reinhardt to Zippelius.

In March, 1829, the Rijksherbarium, the royal herbarium, was founded at Brussels, with Blume as director, with the title of professor. From the start, Blume was possessive for the instituton and used his position to propel its growth and stature in the botanical community. One of his first actions was to proclaim that the Botanic Gardens at Buitenzorg should regularly provide consignments of plants to the Rijksherbarium, and furthermore, that the members of the "Natuurkundige Commissie" in the Indies (which would later include Junghuhn), should not distribute specimens to "foreign" herbaria.

The Rijksherbarium did not exist for long in Brussels because of the 1830 rebellion but was transported to Leiden by botanists on the staff. Blume's administrative talent became recognized both in Holland and abroad, and he was soon elected to membership in learned societies. As usual for scientists of higher status, a cognomen was often assumed. Blume took for himself the well-chosen name "Rumphius secundus."

Exemplary of his possessiveness, Blume opposed the founding of Herbarium Bogoriense by Teijsmann in 1844, claiming that the latter should send its specimens to the Rijksherbarium, or at least the duplicates, but he found a different opinion from Teijsmann, who foresaw that this would merely delay speedy naming of the specimens. In 1850, personalities again erupted, this time over Blume's reluctance to allow specimens to be borrowed, even by well-known botanists, including Junghuhn. Teijmann prevailed and loan policy was relaxed somewhat.

For both personal and professional reasons, Blume became a naturalized Dutch citizen in 1851, and after a long and illustrious career, he died in Leiden after a long, painful illness in 1862, at the age of 65.

In his repatriation trip to Europe, Blume carried with him a dream of a "Flora Javae," an illustrated circumscription of the subject, in his mind consisting of 250 fascicles. The lobbying for support started in Brussels but a formal request was made to the Dutch Office of the Colonies, and Blume was granted 7000 florins. The Dutch Government would buy 50 copies (five florins for each installment), the East Indies' Government would buy four copies. He was also allowed to appoint a draftsman for a period of four years.

Blume dedicated the first volume to the Nees von Esenbecks at Regensburg, with whom he had early grown close. Blume's frequent letters to them on his experiences in the exploration of Java were published in several volumes of the journal Flora, and he frequently sent them cryptogams and fungi. Theodor Friedrich Ludwig Nees von Esenbeck (1787-1837) published a paper on

Javanese Fungi, with Blume as co-author (Blume & Nees von Esenbeck 1827). These fungi, in time, were included by Fries (1855). For the sake of accuracy, it was Theodor Nees von Esenbeck's brother, Christian Gottfried Daniel Nees von Esenbeck (1776-1868), who considerably earlier had published one of the "founding documents" of modern mycology (Nees von Esenbeck 1817; Fig. 11).

While Blume's role in mycology was minor, his interaction with Junghuhn and Zollinger was constant during the years all three were in Java and nearby islands. Blume was an egalitarian — opposed to the stratification of Javan society and oppression of indigenous peoples, while Junghuhn was more authoritarian. This difference permeated the organization of the Buitenzorg Botanic Gardens, including Blume's regard for gardener Zippel. Junghuhn also considered himself ignored by Blume in descriptions of new taxa, and Junghuhn's hard feelings transcended location, extending to their post-Java days.

Fig 11. Christian Gottfried Daniel Nees von Esenbeck. Source: Wikipedia, retrieved 2022.

Later it was said that Blume misused the collections and manuscripts of Zippelius, who made a long exploratory trip to the Moluccas, southwest New Guinea and Timor, where he died. Zippelius surely made a most important collection, but he left no manuscripts

It is exemplary that Blume named the genus Santiria after Bapa Santir, an old Sundanese wise man, who accompanied Blume on his explorations of Mt Salak. Junghuhn took this negatively and suggested that Blume was consciously deceptive in pretending to be generous, but really shed his ire on native botanists and other dignified men who were the only persons entitled to be honored by eponymy. In his colonial arrogance, Junghuhn called Bapa Santir an inferior person, not more than a simple "pakkedrager" (i.e., cooli,

carrier) whereas, in all probability, Bapa Santir was an intelligent man and an outstanding local authority on plants who knew his way in the forest, knew the vernacular names and uses of forest plants and assisted Blume in many ways. It is testimony to the irony of fate because in history Junghuhn is reputed to be the pioneer and advocate of a progressive society of freethinkers, whereas Blume is remembered as a distinctly conservative person, though all his writings give evidence of a progressive, liberal mentality. It appears that Blume was the more enlightened of the two; he was certainly devoid of any racial prejudice (van Steenis Blume 2022).

After his return to Java, Junghuhn was appointed a member of the "Natuurkundige Commissie" (1845-1848). Through his extensive journeys in the Dutch East Indies, it became clear that he had amassed a great herbarium, and Blume claimed this for the Rijksherbarium back in Leiden where he was director. Junghuhn refused, which prompted irritation by Blume. Junghuhn was not a taxonomist and had made errors in precursory papers. These were corrected by Blume: altogether, Blume's sharp remarks contributed to a strong mutual animosity between the two (van Steenis Blume 2022).

For his part, Zollinger had an equally arid relationship with Blume. As described above, Zollinger, at the suggestion of A. De Candolle, was considering a botanical-zoological exploration of Java and wanted subscriptions from biologists, authorities and institutes for his endeavor. After having obtained some in Belgium, France and Switzerland, he came to Holland, where he saw some hope. With his letters of recommendation, he tried to obtain subscriptions from the Rijksherbarium and the National Museum of Natural History at Leiden. Above all, from the Dutch authorities he begged free transport for himself and his equipment to Java as a contribution to his future work in the colony. In addition to other scientists, he paid visits to Blume and mused about him in his (Zollinger) diary (van Steenis Blume 2022).

Zollinger inferred that other persons considered Blume a rather tough person, who assumed that in all probability, Zollinger would send him plants, obviously alluding to Blume's refusal to formally subscribe for a set of Zollinger's specimens. Blume, instead, subscribed to buy Lichens from Java. Zollinger spent time in Blume's beautiful house, with its large library. (transl.): "Blume has five beautiful children and a highly educated wife. He showed me his Rumphia and other things related to Java. We talked mostly about India. I should also receive three boxes of (living) plants (obviously for the Buitenzorg Botanic Gardens)."

His interview with Blume led to other meetings. As a last resort, Zollinger followed Blume's advice and petitioned to be attached to the Buitenzorg Botanic

Gardens, but there was no vacancy at that time. All told, Zollinger had no luck in Leiden, but returned to Java nonetheless (van Steenis 2022). Inevitably, Zollinger's specimens were passed from Moritzi to Léveillé in Paris, outside the clutches of Blume and the Rijksherbarium.

Fig 12. Joseph-Henri Léveillé. Source: Wikipedia. Retrieved 2022.

Léveillé. Joseph-Henri Léveillé (1796-1870; Fig. 12) was a mycologist and credentialled physician, having been educated at the University in Paris. He had a special penchant for the microscope, and it was said that he used the instrument in dealing with wounded patients in the military. Aside from his professional duties, however, he was intrigued by earlier mycological reports and illustrations that spores of the fleshy fungi were all produced in asci – that is, within sacs as endospores. When he took a careful look, though, he found that some spores were, indeed, produced within asci, but that others seemed to be produced from the tips of protruding cells; in short, they were exospores (Léveillé 1837; Fig. 13).

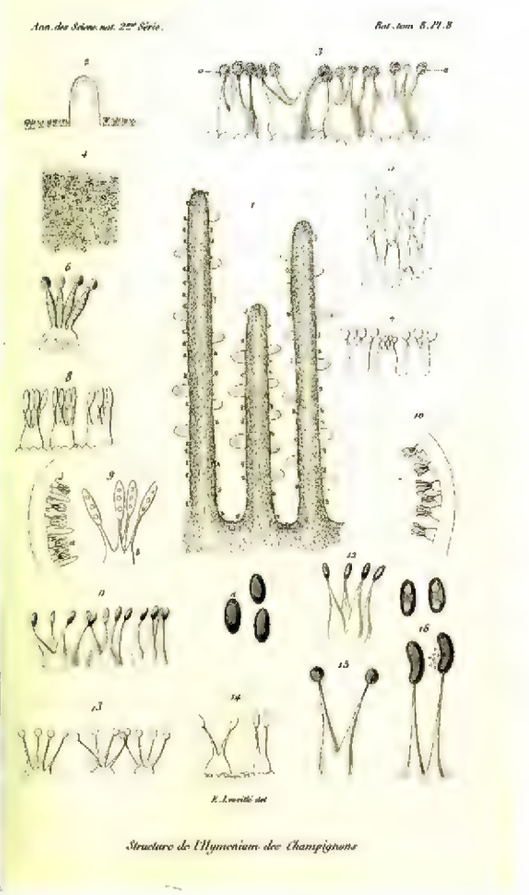

Fig 13. Illustration from Léveillé, 1837, showing lamellate hymenophore with cystidia and basidia. Approx. 0.7×..

Léveillé delivered the results of his study to the Société Philomatique in Paris in March, 1837. "He stated that the Hymenothceii of Fries's Systema Mycologicum comprised genera which were not related and that the group should be divided according to the stucture of the hymenium. In Agaicus (Coprinus) micaceus the gills, in profile, show two kinds of organs; projecting diaphanous conical or cylindrical vessels which he calls cystidia, and less prominent, closely packed structures ending in four points,

each bearing a spore, which he calls basidia." The talk was published, detailing and illustrating his discovery but the veteran mycologist, Pierre-Camille Montagne (1787–1866) took issue, reporting that his observations proved that fungus spores were produced within asci. Wisely, Léveillé had discussed his findings with several other mycologists, including the aging Persoon, who wondered how organs so constant and easy to see as basidia, could have escaped the notice of the great number of mycologists who had made observations with the microscope. The issue was referred to a small committee for rectification. The committee sided with Léveillé and the highly reputed Brongniart and Guillemin concurred (Ramsbottom 1938-1939). Although the observation was matched by some other workers at about the same time, Léveillé was generally credited with it, which established his reputation as a mycologist.

Later, in the introduction to his paper on exotic fungi, he wrote (Léveillé 1844, transl.): "In a trip which I have just made to Holland, for the special purpose of studying the herbarium of Persoon, preserved in the museum of Leyden, I was led on the one hand to recognize as new a large number of species that I had for a long time in herbarium; on the other hand, to study completely the greater part of those which have been described by MM. Blume, Nees and Junghuhn. This study having familiarized me with the rich cryptogamic vegetation of the Dutch possessions in the Indies, I was able to explore fruitfully the collections formed, not only in New Guinea, the Moluccas, in Java, Sumatra and Borneo, by Zippelius, but also those collected by MM. Khuhl and Van Hasselt, Junghuhn and Korthals. It is the mushrooms collected by these scholars that are the subject of the work I am publishing today, a work which has been made easy for me by examining the original drawings of a large number of species made on the spot.... To the enumeration of the species preserved in the museum of Leiden, I have added those of the herbarium of Paris, which have remained unpublished up to this day..." Nowhere was Zollinger mentioned.

As was the etiquette of the day, a visiting scientist, with permission, was able to take a small portion of a specimen to be studied at his home institution. So it apparently was with Léveillé. There is testimony from Dr. Leif Ryvarden, polypore expert: "I met Donk in Leiden when I was doing a circle to herbaria (fungaria to be modern) in Europe to look at types of polypores. He showed me all they had in Leiden from Léveillé and Junghuhn. Donk told me that Léveillé came to Leiden to look at Junghuhn's collections from Sumatra, and according to Donk stole half of it while sectioning all types in half and took one part back to Paris. I could later confirm that, when I visited the Paris collection. Jokingly, Donk said that if you want to look at the better part of Junghuhn's specimens,

better to go to Paris!" (Ryvarden-RHP, pers. comm.).

By late 1845 [February, 1846, the publication date from p. 113 of Léveillé 1846a], however, Léveillé had had access to Zollinger specimens, presumably through Moritzi. Léveillé's descriptions included "nov. sp.," Zollinger specimen numbers, and locations in Java. In the introduction to the paper, Léveillé wrote (transl.) "... a notice to which I added, in advance, the descriptions of the mushrooms collected and recently sent to Europe by Mr. Zollinger, and I owe, before their sale [to subscribers?], the first communication to Prof. Moritzi."

Léveillé (1846b) gained perspective through careful examination of specimens, including microscopy, and by the age of 50, was ready to generalize from this base. He proposed a new system of classification from that by Fries, dividing the fleshy fungi into what are now the phyla Basidiomycotina and Ascomycotina, and the further division of Basidiomycotina into the Hymenomycetes and Gasteromycetes (now both obsolete) (Léveillé 1846b; Ainsworth 1976).

Taxonomic Literature-2 (Stafleu & Cowan 1970; 865): "Léveillé's herbarium and most of his manuscripts were destroyed during the Franco-Prussian war of 1870-1871. However, many duplicates had been sent to Montagne (now at PC). Léveillé also sent some early material to Persoon for determination (now at L) and later identified part of other Leiden and Paris collections of fungi." During the Franco-Prussian war, Paris was besieged for four months, with understandable damage as a result. The war tested the hegemony of France in eastern Europe, was won by Prussia, and resulted in the southern German provinces joining Prussia in the new German Empire, a united nation-state. The geopolitical status of Alsace-Lorraine was settled, at least for some years.

The mycota of the East Indies had become better represented by specimens collected in the middle of the 19th century. The collectors were transplanted men from Germany and Switzerland, but names for those fungi were largely assigned in Europe by workers who never saw their points of origin, particularly a Frenchman with a microscope. But news was spreading about the combination of exotic flora and the good working conditions at Buitenzorg, and the cast of collectors grew apace.

Cameo roles. Easily overlooked at the end of the century was the collecting by Jean Massart (1865-1925), a young Belgian botanist of high regard (Wikipedia Masssart 2022; PeoplePill 2022). With an 1894 doctoral degree from the University of Brussels, Massart conducted fieldwork in Java and Sumatra in 1894-1895. Once back in Europe, his mycological specimens were reviewed by Patouillard (1897; Fig. 14) in a volume which also included reports on

Massart collections of mosses (Cardot 1897) and algae (De Wildeman 1897a). Separately, De Wildeman (1897b) described the new fungus genus and species, Massartia javanica. Patouillard's review conspicuously cited publications by Junghuhn and Zollinger and made comparisons to his own previous report of African material.

Fig 14. Narcisse Theophile Patouillard. Source: Lloyd CG, Mycological Notes.

Another cameo player was Otto Warburg (1859-1938). Borne of a rich banking family, Warburg was one of the few explicitly Jewish scholars of that era. A native of Hamburg in Prussia (now northern Germany), he studied at the University of Bonn, and the University of Berlin before obtaining his doctorate from the Univerity of Strasbourg in 1883, presumably under de Bary (Wikipedia Warburg 2022). He continued studies in chemistry and plant physiology, but in 1885 (at age 26) embarked on a protracted "study tour." Paul Hennings (1893) wrote (Transl.) "On his travels, which he undertook during the years 1886-1889 in scientific studies to India, China, Japan, the Philippines, the islands of the Malaysian under Bismarck archipelago, Dr. O. Warburg collected numerous fungi, especially in the last areas, which he collected for the [Konigl.] Botanisches Museum [Berlin] and the processing of which he generously entrusted to me." He added: "Below I give a systematic listing of the species prominently collected in the Malaya archipelago, to which I have amically added ten species collected by Mr. Daume on Sumatra and by Mr. Dr. Lewin donated to the botanical museum."

The most thorough enumeration of Warburg's material, usually as "Henn. sp. nov.," is in two sections (Hennings 1900). The introduction to the volume includes a detailed itinerary of Warburg's study-tour.

In his later life, Warburg moved to Palestine, where he held several appointments serving the Jewish cause, including the Zionist movement (i.e. President of the World Zionist Organization, 1911-1919). His education earned him positions in agriculture; in 1931, he founded the National Botanic Garden of Israel in the Hebrew University in Jerusalem. After these rewarding years,

Warburg moved back to Berlin and died in 1938 (Warburg JStor 2022).

At the turn of the 20th century, still more collectors descended on Java and nearby islands, usually set on more general gathering, but not turning a blind eye to fungi. Albert Julius Otto Penzig (1856-1923), a German botanist turned mycologist, gained his doctorate in 1877 (at age 21), at the University of Breslau (now in Poland) in his hometown (Prabook Penzig 2022). Soon, he took up a position as assistant to P. A. Saccardo in Padua, Italy, who was soon gathering literature on ascomycetes, but in 1882, publishing the first volumes of the Sylloge Fungorum. In the same year, Penzig was privat-docent at the University of Modena, becoming director of the Stazione Agraria Modena during the following year. In 1887 he was appointed professor of botany at the University of Genoa (Penzig JStor 2022; Prabook Penzig 2022)

Penzig travelled to Ceylon (Sri Lanka) and the East Indies in the late 1890s, collecting plants in Java with the director of the Buitenzorg Botanic Gardens, Melchior Treub. He also spent time in the laboratories at Buitenzorg studying Myxomycetes. Together with Saccardo, he published the new taxa of fungi (Penzig & Saccardo 1904a, b). His collections were mentioned by Boedijn (1962).

Yet another contributor at the very end of the 19th century was Marjan Raciborski (1863-1917), a native of Poland, and for a brief time (December 1896 to May 1897; Species Raciborski 2022) an assistant at the Buitenzorg Botanic Gardens. After his time at the Buitenzorg Gardens, he worked at experiment stations dealing with sugar and tobacco. Through travel or specimen-sorting, Raciborski managed to publish several papers on the Java fungi, both close to his time in Buitenzorg to two decades thereafter. Even accurate citations of some of these papers are insecure. After his return to Poland, he penned a paper as a travelogue (Ewertowski 2022) and assembled two fascicles of the exsiccati, Cryptogamie parasiticae in insula Java.

In his mycological output, Raciborski described at least one new genus and several new species (Raciborski 1900a, b, c, 1909a, b).

Another collector was also in the area, and his specimens were enumerated by Abbé Giacomo Bresadola (1846-1929), located in the mountains of northern Italy, who wrote: (Transl.) "The most famous Dr. E. Heimlicher surveyed the island of Java during the winter of 1903-04, and gathered remarkable collections of natural resources. The Mycetes, the greater collection of the barbarians, which were sent to us to be kindly determined, are here recalled.

"Since the Javanese mycological flora has already been explored by many, mycologists who will be enraged that too much novelty is found in this small collection, and we are also surprised, but we have been attempting to determine

other specimens which, when carefully examined, have not led to known forms." (Bresadola 1907) Unfortunately, I (RHP) cannot find any details on Dr. Heimlicher.

CHAPTER 4: VON HÖHNEL

The "von" in his name denotes some standing within the Germanic social structure of the mid-19th century. His full name was Franz Xavier Rudolph Ritter von Höhnel (1852-1920). His hometown is listed (Wikipedia German 2022) as Zombor, Batschka, without country notation, but another source (WorldCat idendities 2022), notes this place as then Yugoslavia (now Hungary). Either way, he was born deep in the Austro-Hungarian Empire. The first information indicates his education at the Technischen Hochschule (Technical University) of Vienna, and the University of Vienna – the best schools of the region, and he "passed the teaching examination for mathematics, geography, and natural history" in 1874. This qualified him to be an assistant at the University of Natural Resources and Life Sciences. His career has been summarized by Smith & Schmull (2011)

The well-known professor, Anton de Bary, came to Strasbourg (then German, now in France) in 1872, and von Höhnel must have been an early student in that laboratory, for he obtained his doctorate in 1877 (at the age of 25), with a dissertation on the negative air pressure in the vessels of plants, a phenomenon he demonstrated experimentally. The "experimental method" of teaching biological sciences was just then being exported to Great Britain and North America (Petersen 2021; Boney 1986), and von Höhnel's thesis echoed the idea that plants could be subjected to experimental techniques in addition to their morphology and classification. He assumed a position as lecturer at his prior home, the Vienna Technischen Hochschule.

In academia of Europe, a doctorate was not credential enough to become a professor at the university level: there was the examination for "habilitation." Von Höhnel "habilitated" in 1879, but it was not until 1884 that he received the title of extraordinary professor at his former institution, the Technischen Hochschule of Vienna. With minimal interruptions, he acceded to full professor of botany, microscopy and technical product science in 1895. His research was limited to green-plant phenomena, for which he gained high marks, and his personal bibliography was prolific. He was 53, and at the peak of his career.

A statistical bar-graph of von Höhnel's publications (WorldCat identities 2022) shows high productivity until the very end of the 19th century, when productivity fell to zero for a year or so, then a sudden climb to new numbers

for the following decade or more. An amateur psychologist might guess "mid-life crisis," surely a common occurrence in our time if not von Höhnel's. Supportive of this idea, von Höhnel's subject matter for the new era was exclusively mycological.

Moreover, from an experimental tendency and green plants, his mycological reports became taxonomic with a strong nomenclatural element, usually with no clue in the title to content, each a summary of observations on one or more fungi, usually with collection data, and often a concise circumscription of the fungal group to which the collection(s) belonged. Normally, he worked alone — his collection(s), his observations, his literature and herbarium searches, and his writings. Rare were illustrations, but most "Fragmente" ended with an index of the fungus names included. Often, "Fragmenten" followed each other.

As might be predicted, several of von Höhnel's early "Fragmenten" appeared in the journal of the Vienna Royal Akademie (under the title Fragmente zur Mykologie, with separately numbered Mittelungen; i.e. Höhnel 1902, 1906, 1907). But this was the time when the Sydows (father and son) established Annales Mycologici (Petersen & Hawksworth 2016). The Sydow family name was already widely respected and their Berlin address equally so, so the Annales, almost exclusively in German, was a competitor, and von Höhnel submitted some of the papers there (under the title Mycologische Fragmente; Höhnel 1903a, b, 1904, etc.).

Like most fungal taxonomists, von Höhnel realized that mycological richness increased from temperate to tropical zones, an observation supported by herbarium material from collectors in far-off locales: he needed to see such places and make his own collections. Several major "study-tours" were arranged to a variety of climates: North Africa, Asia Minor, Brazil, North America, Ceylon, and Java, among other places (Wikipedia German 2022), the latter important to this narrative.

In 1905, von Höhnel was named Rector of the Technischen Hochschule of Vienna, a prestigious title, but he also was a member of the Wiener Akademie der Wissenschafter (Vienna Academy of Sciences) and it was this organization that supported his trip to the tropical Pacific (Höhnel & Weese 1924).

Leaving Vienna in September, 1907, his first mycological stop was Ceylon (now Sri Lanka), where collecting was to his liking, and from November 11, 1907, to March 1908, von Höhnel was in Java. "[Transl.] He spent 100 days in the tropical paradise of Buitenzorg and 26 days in the Tjibodas mountain station" (Höhnel & Weese 1924; Smith & Schmull 2011). The former locale had seen Junghuhn, Zollinger, and Masart, and Tjibodas was a Zollinger residence and a Massart destination. "During this time [von Höhnel] was engaged in

numerous excursions, mainly with mycological collections and a rich yield was the result of this strenuous activity." He arrived back in Vienna in May, 1908.

Remarkably, his first publication reporting results from the trip appeared before the end of 1908. It was presented to the Academy on October 22, with the published paper also with an October date (actual date 1909; Höhnel 1909a).

The opening section, as an example, dealt with termite fungi. He had collected such things in Ceylon and therefore could compare the Javanese material, but he could also discuss the reports by others who had dealt with such oddities. In his opinion, several names could be reduced to synonymy, largely concluded from a thorough literature search.

The four subsequent reports on the East Indies fieldwork bore a subtitle: (Transl.) "Second [through fifth] report on the results of the research trip to Java carried out with the support of the Royal Academy in 1907-1908" (Höhnel 1909b, c, d, e). Casual calculations yield the following: printed pages = 493; numbered contributions = 294; contributions per day in Java = 2.33. Five major publications appearing over 13 months, each with a preliminary presentation and a written manuscript. These five reports, all based on his 126 days on Java, did not end his contributions on the fungi found there, but citation of Javanese material decreased substantially over the next several "Fragmenten."

Most of his reports were undergirded by detailed microscopic observations. In this level of observation he was not alone. Narcisse Theophile Patouillard (1854-1926), in Paris, was engaged in a revision of the "Hymenomycetes," which found disagreements with the traditional Friesian construct (Mangin 1927; Heim 1971; Pfister 1977; Patouillard 1900). It was also a time of accumulating and distributing exsiccati, a task which did not lend itself to the often single collections by von Höhnel (Pfister 1978).

Von Höhnel's work did not end with his reports on Indonesian fungi. The "Fragmente" series continued, now and then interrupted by more traditionally titled papers. As reported by Weese (Höhnel & Weese 1924): (Transl.) "On November 11, 1920, Höhnel, the tireless researcher, succumbed to a stroke. As successor to Höhnel in the teaching position at the Vienna Technical University, I ... found a number of descriptions of new Javanese fungi in the botanical laboratory of the university, which Höhnel completed while studying the remainders of his Javanese collections in the current years of his mycological activity, but had not published. In accordance with the wish expressed by the deceased during his lifetime, to carry out the publication of the writings he left behind, I hereby hand over this diagnosis to the public and only deeply regret that, since the Höhnel collections have passed into the possession

of an American university, I cannot; I am unable to add supplementary and explanatory drawings to the short text."

A casual search for von Höhnel specimens in North American herbaria (Mycoportal 2022; Pfister 1978) reveals: at least four herbaria house von Höhnel specimens: FH (125); NY (50); F (25); DAOM (20). A sprinkling of Indonesian specimens; FH = 12; NY = 7; F, DAOM = 3. All specimens dated between 1901 and 1916 (so not including collections made in the final four years of von Höhnel's life). But TL-2 claims that his collections (and types) are in the Farlow herbarium at Harvard (Smith & Schmull 2011). Dr. Donald Pfister (Asa Gray Research Professor and Farlow Curator, Emeritus) writes (pers. comm.): "The collection was purchased by [Roland] Thaxter and Mrs Farlow. It has not been databased beyond some miscellaneous specimens [thus accounting for the statistic above]. It is a very difficult collection for reasons of hand-writing and use of shorthand. Specimens from the end of his career, hymenomycetes, are in Vienna."

CHAPTER 5. "Mycologisch Museum te Weesp"

In the small town of Weesp, a century ago a rural outskirt of Amsterdam, three young people banded together based around their passion, the fungi. As young folk will, they pooled their collections and formed a club, "Mycologisch Museum te Weesp" (Donk 1965a). Two of the three shared a birth year in late 19th century, and the third (dates unknown), married one of the other two. Of Karel Bernard Boedijn (1893-1964), Caspar van Overeem (1893-1927), and Miss D.M.G. de Haas, later wife of van Overeem, the former two were side-tracked from their adolescent ambitions, only to revive them to form careers. The pivotal individual for both men was the prestigious geneticist, Prof. Hugo De Vries of the University of Amsterdam. De Vries's fame had come from his decoding of Mendel's genetic notes when compared with his own, setting the stage for genetic experimentation.

Karel Boedijn was born in Amsterdam, where he spent his youth. After his primary education and high school, he worked in a commodity trading office, but weekends were saved for excursions in the area, studying all that was living and growing. During World War I he lost his work, but a fortuitous appointment as a private assistant to De Vries was of decisive importance. The position encouraged study of botany at De Vries's University of Amsterdam, where Boedijn finished his studies in 1925, with the thesis: "Der Zitsammenhang zwischen den Chromosomen und Mutationen bei 0enothera lamarckiana"

("The relationship between the chromosomes and mutations in Oenothera lamarckiana") (Arx 1966). These days we would label the thesis as cytogenetic. By this time, Boedijn was 32.

As though their day jobs were not time-consuming, van Overeem & Boedijn (1918) published what they thought would be the first chapter of several on the application of chemistry in mycology. In addition, Boedijn published several sole-authored papers before his thesis, including three on water molds (Boedijn 1918, 1921, 1923), and in 1925, the same year as his thesis, a study of the agaric genus *Inocybe* (Boedijn 1925). It was barely a year after his thesis (1926) that Boedijn married and was posted to the East Indies.

The second member of the "Mycologische Museum te Weesp," Caspar van Overeem (1893-1927; Fig. 15) was the same age as Karel Boedijn and shared his enthusiasm for nature, but also soon added an interest and skill in illustrating his collections, a penchant which would follow him for his brief lifetime. His paintings often included details of smaller beings such as beetles or mosses. The two friends had a similar adolescence, but van Overeem went on to obtain a teaching certificate. According to van Overeem's colleague, Danser (1927), Caspar enjoyed his teaching experiences, but harbored ambitions of becoming involved with natural history full-time.

Like Boedijn, van Overeem was hired as a personal assistant to Hugo de Vries. Whether there was any intercession in these similar appointments is not known, but van Overeem had to devote his time and energy to helping de Vries untangle the life and cytogenetics of the evening primroses (*Oenothera* spp.). Nonetheless, when possible, van Overeem continued his own interests. He began constructing models of crystalline materials, and, with Boedijn, published a paper on carotene crystalline forms in fungi (van Overeem & Boedijn 1918). Doing double duty, in 1919 (age 26) he obtained a certificate for teaching at a higher level.

CASPER VAN OVEREEM, † 28. Febr. 1927.

FIG 15. Caspar van Overeem. From Danser (1927).

At that time, routes of academic study in The Netherlands were strictly defined, and van Overeem's teaching certificate could not be used

as a gateway for study for a doctorate. Instead, van Overeem enrolled at the University in Zürich, Switzerland, and moved there. Again, several intersecting interests conspired for his time: periodic difficult examinations, finishing his *Oenothera* research for de Vries, to say nothing of language disparity and marriage to the third member of the "Mycologische Museum te Wessp."

Time moved slowly, but in the Fall of 1920, van Overeem defended a dissertation: "Ueber Formen mit abweichender Chromosomenzahl bei Oenothera." ("On forms of *Oenathera* with different chromosome numbers")

According to Danser (1927) (transl.): "At last van Overeem had a free hand for realization of his goal. He considered it useless to pursue the *Oenothera* research further when he did not have employment, but felt he had been called to get other investigations on new tracks. He had also formed a new ideal. He intended to move to Buitenzorg in 1921." He and his wife left Europe in late 1920, and arrived in February. He was 28.

Whether he emigrated with guaranteed firm employment or with an uncertain future has not been archived, but he must have had dealings with the administration of the Buitenzorg Botanic Gardens, for he mapped out a separate department of mycology in the herbarium. Simultaneously, he foresaw the need for a manual of fungi for the East Indies, and two months were spent planning travel and cooperative efforts to that end. Boedijn was still at home in The Netherlands, so van Overeem worked alone. But hardly a year after their arrival, the van Overeems published a huge summation of the collections of myxomycetes, fungi and lichens gathered in the East Indies up to 1920, with a complete bibliography on the subject (Van Overeem & van Overeem 1922).

The tropic climate dictated a very different tempo than van Overeem was willing to adopt. Danser (1927; transl.): "Always accustomed to wishing for the uppermost of his strength in Europe, he began to work in the same way in the tropics. It had already been the same for many others! He, the young scientist, who himself had no insight into the wealth of forms in the tropics, established and managed a new division of the herbarium for mycology, arranged for new methods of collection and preservation, and helped others with advice and action. And all this while he felt how the tropic climate exhausted him, and the environment pressed on him. … He became visibly weaker, and soon developed a serious lung disease. He began his suffering, of course mental as well as physical.

"After the first attack of his sickness, he was advised to return to Europe, but he would not consider this. In Europe perhaps [sic] he might expect better health, but surely [sic] a repatriation without the realization of his scientific goal was worse than death. Friends who van Overeem knew, could hardly speak to

him and give him advice, and those who he did not know were ignored. So his Buitenzorg time, in great hindsight, was happy for him, and yet this hindsight was qualified by his mental condition." (Danser 1927).

Like numerous others, he considered that good illustrations could taxonomically serve better than poorly preserved specimens (Figs. 16, 17). This led to his proposal of an "Icones Fungorum Malayensium." For this, he asked collaboration of Dr. J. Weese in Vienna. Sixteen fascicles appeared from 1923 to 1926. Almost all were written and illustrated by van Overeem (1923, 1924a, b, 1925a, b, c, d, 1926a, b; Overeem & Schwarz 1926.) On the cover to Fascicle 1, the publisher was cited as "Wien 1923. Im selbstverlag des Mykologischen Museums in Weesp (Holland)." ("Self-published by the Mycological Museum of Weesp."). A melancholic reference.

Danser (1927): "In the spring of 1926 he labored over [a chapter on] the fungi for a book on food plants of the Netherland Indies [Overeem van 1927]. In June, a more severe health attack occurred, but he would not cease his work, until, in September, an explosive relapse beset him. Calmly, he made

Fig 16. Icones Fungorum Malayensium, Table I. Fig. 1. Phaeoclavulina zippelii. 2. Clavaria implexa. 3. Clavariella fragillma. Original size: 29 × 21 cm.

Fig 17. Icones Fungorum Malayensium. Table V. Rigidoporus microporus. Original size: 29 × 21 cm.

the decision to return to Europe, but he slowly recovered and gave up the plan. Finally, in December, his doctor warned him that within a year, he would lose his speech. Another voyage was planned, this time with an exact date arranged for March 9, 1927. Instead, he died unexpectedly on February 28."

As could have been predicted, he left numerous illustrations of fungi for

anticipated fascicles of the Icones and excerpts of writings. These materials remain in the Bogor herbarium. Ironically, his appointment at the herbarium was filled by his long-time friend, Karel Boedijn.

Whether Karel Boedijn (Fig. 18) was accompanied by his wife in his emigration to the East Indies is unknown to me. Once in Batavia, though, he was soon passed on to the AVROS Agricultural Experiment Station near Medan, the capital of North Sumatra. Rubber plantations were being established on Sumatra, and their owners had formed the Algemeene Vereeniging van Rubberplanters ter Oostkust van Sumatra (the General Association of Rubber Planters on the East Coast of Sumatra - or A.V.R.O.S.). Interestingly, in Boedijn's publications none dealt specifically with rubber, but the keen eye necessary for phytopathological observations revealed many fungi, often hardly visible. Boedijn was drawn to such organisms and while the Medan Station had little in the way of literature, the Buitenzorg Botanic Gardens had gathered a rather good assemblage of references. Diligently, Boedijn consulted papers on tropical fungi, and an overview of his publications reveals that again and again he consulted and cited papers on fungi from the Caribbean, Africa, and Central America. While not artistic, his illustrations were detailed, and showed the structures necessary for accurate identification (Figs. 19, 20).

FIG 18. Karel Bernard Boedijn. Source, Persoonia 3: 1. XXXX.

Instead of gathering scattered observations into multi-page papers, he usually assembled and published several small papers on very limited, and often overlooked, fungi, from Mucorales and Mycetozoa, to agarics, cup-fungi, jelly fungi and anamorphic (asexual) taxa (Donk 1965a). By 1933, he had returned to Java and with only a short sojourn back to the Netherlands in 1936, was appointed a professor at the Medical University in Batavia and later at the Agricultural Faculty as well. From 1928 to 1941, he was titled as Mycologist at the Buitenzorg Herbarium, succeeding van Overeem in that position (von Arx 1966).

Boedijn frequently reported on fungi resulting from spores cultured from various substrates, including "isolated from air." An example was his new genus,

Curvularia (Boedijn 1933), an assemblage of dark-spored, phragmosporous anamorphs previously described from scattered locations and genera. He concluded that *C. lunatum* (isolated from air) had been described previously by Wakker (1898) on sugar cane in Java. Bibliographical syntheses became common in Boedijn's papers, pointing out phytopathological literature not included in this paper.

Boedijn's arrival in the East Indies in 1926 coincided with that of another transplanted European. "I spoke several times to Donk and to Rudi Maas Geesteranus about Boedijn and the former (Donk) wrote up the biography of Boedijn, who arrived in Sumatra about the same time, 1926, as Corner's arrival

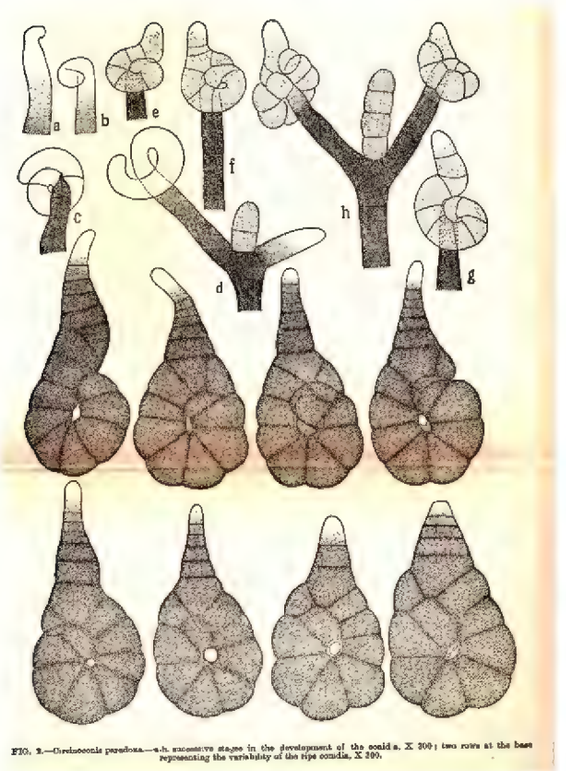

Fig 19. Boedjin (1933, Fig. 2); Circinoconis, a new genus of Dematiaceae (Fungi Imperfecti.) Original size: 29 × 21 cm.

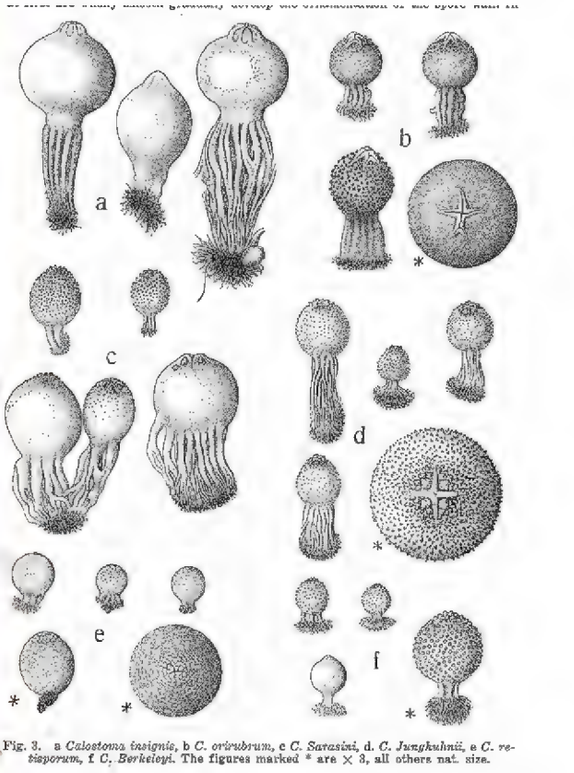

Fig 20. Boedijn (1938, Fig. 3). The genus Calostoma in the Netherlands Indies. Bull. Jard. Bot. Buitenzorg, ser. III 16: 64-75. Original size: 27.5 × 19 cm.

in Singapore. [Boedijn] then moved to Bogor in 1928. My mention of Boedijn in any publication would have been that he named several of the larger fungi found later in Malaysia" (Roy Watling to RHP, pers. comm.).

In 1931, Boedijn was drawn inadvertently into a controversy over the terminology of the various parts of basidia, particularly the basidia of the "heterobasidiae" (Boedijn & Steinmann 1931). For more on this topic, see below.

At Buitenzorg, Boedijn had access to specimens collected by others. Examples were the collections made by Dr. O. Jaag. Boedijn (1940a) wrote:

"During his stay in the Netherlands Indies, Dr. O. Jaag made a collecting trip to the islands of Alor, Bali, and Flores. Most time was spent in Alor, where extensive collections were made. Among the plants, mostly consisting of Phanerogams and lichens, a small number of Fungi were present, which were placed at my disposal." Another project was compilation of a list of fungi from another small group of islands, including the recently-erupted volcano, Krakatau (Boedijn 1940b).

Part 2. Marinus Anton Donk

CHAPTER 6. THE EARLY YEARS.

The intrusion of M.A. Donk (1908-1972) into the mycology of the Dutch East Indies did not register until, at age 27, he returned to his birthplace, Java, with a firm grasp on an intended career. His birth took place in Situbondo, on the north coast of eastern Java, the family home. The Donk family patriarch was a responsible party, designing and supervising construction of lighthouses across the south-west Pacific. [MAD to RHP, pers. comm.] The Dutch presence had been established at least three centuries before his birth. As common to the colonial Dutch, the Donk family was surrounded by servants.

Later in life, Donk was not a man lightly given to a nickname. His bearing was more formal than that, but when he spent an academic year with us [1969-70], I inquired of him how he preferred to be addressed. He replied: "When I was born, the midwife commented to my mother 'il n'est rien, Madame.' (he is nothing, Madame). To some extent, "rien" as a nickname continued, but he was kind enough to pronounce it as "reen" for English-speakers, and so it was, although it was rare to address him in this way. (MAD to RHP; Burdsall to RHP, pers. comms.)

The first third of the 20th century was not without turbulence: "The war to end all wars" was played out during Donk's pre-teenage years; France and Germany were wiped out, and the United States was not spared. For the next decade, known in the US as "The roaring twenties," there was nothing "roaring" in Europe unless, perhaps, for famine, ruin and reciprocal hard feelings. At the very end of the 1920s, the economic "Great Depression" reverberated across Europe. How all this effected Donk, no record survives. In fact, it seems that the most that can reported is that for formal education, Donk emigrated from Java to Holland. This was not exceptional — sons and daughters of the better class of colonialists migrated to the homeland to establish themselves, with or without an accompanying parent.

Donk attended public schools and registered for university at Utrecht, eventually to obtain his PhD degree in 1934 under Dr. E.E. Pulle, who had deep experience with Dutch tropical colonial floras. Donk's dotctoral research subject was a survey of the Dutch Hymenomycetes (a term no longer part of the formal fungal phylogeny, but generally referring to those Basidiomycetes whose basidia are formed in a palisade layer, a hymenium). The resulting document had two parts, the Heterobasidiae and the Homobasidiae. The first part, in Dutch, appeared in 1931 (Donk 1931). The second part, which acted as his thesis, was defended in 1933, and was in German (probably translated from Dutch; Donk 1933). Almost immediately, Donk travelled back to Java, where he became a teacher at a Lyceum and Medical School. Donk (1941): [156]: "The main part of the work [toward "Genera of Hymenomycetes"] was done in Europe, but during the last seven years it has been continued in Java where it was often very difficult to obtain even indispensable literature. Nearly the whole of this period I lived in Soerabaja [now Surabaya, a port city linking East Java with Madura Island and islands of Indonesia] where no botanical library exists."

In 1941, Donk moved west, from Soerabaja to Buitenzorg, where he was appointed Mycologist at the Herbarium of the Botanic Gardens (now Herbarium Bogoriense). This put at his disposal a fine botanical library and herbarium collections by previous workers, even though previous director Blume (see above) had sequestered much of the collection for the Rijksherbarium back in Holland. Surely not consciously, Donk's major two-part study on Dutch Hymenomycetes and his difficulties with its inherent nomenclature (Donk 1941) set the course for his career. As he worked through the Dutch Hymenomycetes genus by genus, he found that previous authors had treated the genera differently, both taxonomically and/or nomenclaturally. A decade later, Donk (1951) wrote: "For about twelve years before World War II hit Java, I was engaged in the preparation of a 'Genera of Hymenomycetes.' It soon appeared that the application of many generic names was uncertain and rather than using them in a haphazard manner, I tried to find out more about them in order to apply them as correctly as possible..." In 1941, he wrote a voluminous paper proposing the conservation of numerous generic names. Although this was his first attempt at clarifying this large assemblage, the paper ran afoul of time and geographic isolation, and was overlooked by the mycological community in the Northern Hemisphere. The larger task occupied the rest of his life.

Rogers versus Donk: Basidial Terminology. In the 1930s, a subject too arcane even for many mycologists emerged in literature not universally available. Once Léveillé revealed the basidium as opposed to the ascus, the former structure had become a leading character in the definitions of large groups of fungi. In fact, the "Basidiomycetes" was so-named to accommodate the presence of basidia.

In the first of the two-part study by Donk (1931), he furnished several diagrammatic illustrations of basidial morphology coupled with nuclear number and position, from previous workers as well as what he, himself, observed. At the time, this must have required long hours of microtechnique to discern not only basidial morphology, but hyphal and basidial nuclei as well. Boedijn & Steinmann (1931) also described basidial variation, this time in Javan fungi. Boedijn (1937), however, even in Java, had access to papers by Donald Philip Rogers (1908-2001; 1933a, 1934; Fig. 21), who also described such structures, but used a different terminology. Donk's (1931) observations were also cited by Boedijn (1937). Rogers (1933b, c, 1936) continued to describe basidial morphology, following the lead of his major professor, George W. Martin (1931). Gladys Baker's (1936) study of *Helicogloea* (her thesis for the doctorate from Washington University, St. Louis, under C. W. Dodge), replete with excellent illustrations, was also in hand and cited. Baker had taken her Master's degree under G. W. Martin. Confronted by the two systems of terminology, Boedijn put his finger on the disparity between Rogers and Donk, and agreed with Rogers, even though Donk was his colleague just down the coast from Buitenzorg. The words by Boedijn (1937): "From the above considerations, I would conclude that a division of the basidium of the Heterobasidiomycetes into hypo- and epibasidium is inappropriate. Also the distinction between probasidium and metabasidium as proposed by Donk … is superfluous, as has already been pointed out by Rogers (1934)."

Fig 21. Donald Phillip Rogers (Sept. 1962). Source: Hunt Institute of Botanical Documentation Archive, by permission.

The conflict over basidial terminology did not end with Donk and Rogers.

Fig 22. Pat and Sonya Talbot. Adelaide, Australia, 1967. Source, RHP.

The most comprehensive summary of the terminology situation of the time came from David Hunt Linder (1940), at Harvard, in which he compared rusts, smuts, Tulasnellaceae, Tremellaceae, and other groups. Strangely, he did not cite Donk's work, but did cite Boedijn (1937), Martin (1938), and Rogers (1932, 1934, 1935). Lindsay Shepherd Olive (1917-1988; 1953) wrote a major review paper on fungal nuclei, citing Rogers and G. W. Martin, but failing to cite Donk or Boedijn. The year after Olive's paper, Talbot (1954; Fig. 22) took up the terminology controversy. Furnishing the best diagrammatic comparison of the systems of Donk, Linder, and Martin/Rogers theretofore available, he returned to the subject repeatedly (Talbot,1965, 1970, 1973; Fig. 23), as did Donk (1972a; see below).

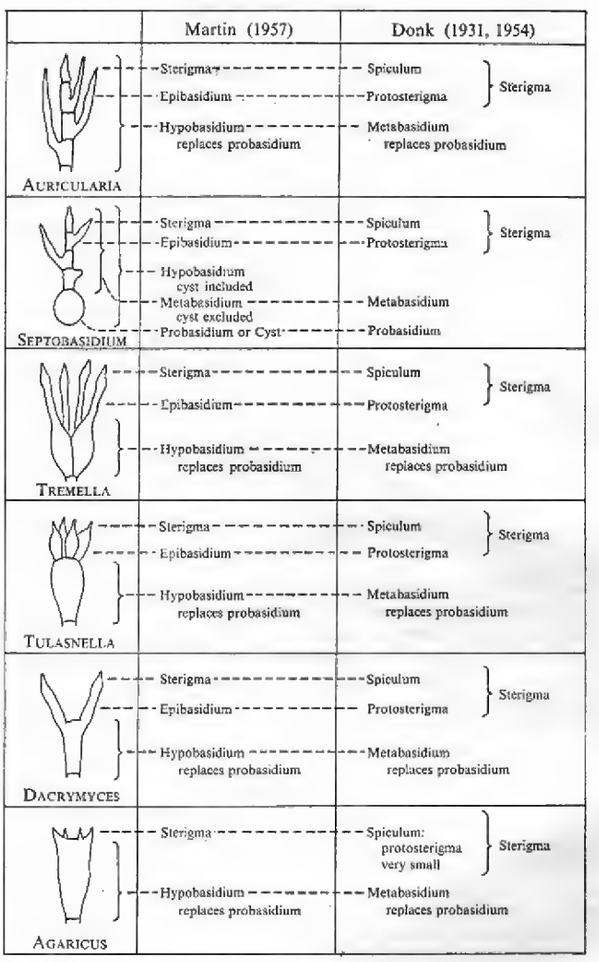

Fig. 1. Diagrammatic comparison of the terminologies of Martin (1957) and Donk (1931, 1954) showing basic agreement on homology and interchangeability of terms except in the *Septobasidium* type of basidium.

Fig 23. Talbot (1973, Fig. 1), comparing basidial terminology of Martin versus Donk.

Donk and Rogers shared their birth year, 1908. Although born in Java, Indonesia, Donk obtained his formal education in The Netherlands, including a PhD at Utrecht (1934), while Rogers, born in Ohio, took his BA from Oberlin College (1929), master's degree from the University of Nebraska (1930), and PhD under G. W. Martin at the University of Iowa (1935). While Donk was teaching in Java in the late 1930s, Rogers served as a graduate assistant at Nebraska and Iowa, and in 1936, was a temporary researcher at the

Farlow Herbarium, Harvard. Later that year, he moved to join the faculty at Oregon State University, Corvallis. Including Donk's emigration back to Java, their education and post- education were typical of their homelands.

CHAPTER 7: WAR! AND PEACE?

As early as 1929, during a time regionally called the "Indonesian National Awakening," native nationalist leaders, Sukarno (born Koesno Sosrodihardjo, 1901-1970; Sukarno Brit 22) and Mohammad Hatta, later Indonesian President and Vice-President respectively, foresaw a Pacific War, and that a Japanese advance on the Dutch East Indies might be advantageous for an independence cause. To the Dutch ruling class, it was not Japan as the prime problem, but Sukarno and Mohammad Hatta. Over the next decade, Sukarno was detained, and nationalist unrest was suppressed, but Japan's military relentlessly gained ground. Parenthetically, Donk was in the Netherlands until 1934, and then returned to a colony dealing with independence movements, and soon, threatening Japanese empirical ambitions. Once back (1934-1940), his teaching job could only be judged as benign and apolitical, perhaps more suspicious to the independence movements than to the Japanese. Boedijn remained as the mycologist in Buitenzorg, but in 1941, Donk was also appointed mycologist there (Maas Geesteranus 1973), certainly a position pointed toward research. The appointment existed for some years, but its appointee was otherwise occupied.

The Japanese proclaimed that they were the "Light of Asia." Japan was the only Asian nation that had successfully transformed itself into a modern technological society by the end of the 19th century and it remained independent, while most Asian countries had been brought under European or American power, and had defeated a European power, Russia, in war. Following its military campaign in China, Japan turned its attention to Southeast Asia, projecting to other Asians a "Greater East Asian Co-Prosperity Sphere," which they described as a type of trade zone under Japanese leadership.

The Japanese had gradually spread their influence through Asia in the first portion of the 20th century, establishing business links across Southeast Asia, including the Indies. These links ranged from the smallest local businesses, to large institutions, and firms such as Suzuki and Mitsubishi became involved in the sugar trade.

In May, 1940, the German army occupied the Netherlands, and martial law was declared across its colonies, including the Dutch East Indies. As the War

raged, Dutch men were conscripted as forced laborers in German industry, and, over time, the conscripts were younger and younger. One candidate was Frans Stafleu, a botany student at Utrecht, who was forced into hiding and evaded conscription, finishing his botany PhD from Utrecht in 1948. He was to fill an important role in Donk's post-War life (Stafleu 1988).

Following the failure of negotiations between the Dutch authorities and the Japanese, Japanese assets in the archipelago were frozen. The Dutch declared war on Japan following the 7 December, 1941 Japanese attack on the United States' naval base at Pearl Harbor, Hawaii. The Japanese invasion of the Dutch East Indies began less than two months later, in January, 1942, and the Imperial Japanese Army overran the entire colony in less than three months. In just a matter of days, Japanese troops landed almost unopposed at four places along the northern coast of Java. On 9 March, 1942, the Dutch commander surrendered. Almost immediately, Donk found himself a prisoner along with many other Dutch colonialists.

Throughout Japanese occupation, military rulers placed captured colonial soldiers in prisoner-of-war camps all over occupied Asia and even in Japan. More than 40,000 Indonesian natives were subjected to exhausting forced labor, for example on the Burma Railway, where one-fifth of them did not survive. Some 100,000 Dutch civilians were interned as well, and as a result of the harsh regime, including lack of food and medication, almost 30,000 civil internees died. The Indonesian population as a whole also suffered gravely: in Java alone, of the 50 million inhabitants, an estimated 2.5 million perished. Overall, about four million people died in the Dutch East Indies as a result of famine and forced labor during the Japanese occupation, including 30,000 European civilian internees.

Such dire statistics, however, furnish only generalities to the story of individuals. Von Arx (Arx 1966): "During the second world war [Boedijn] was a prisoner of the Japanese occupying forces from 1943-1946. As inmate of a camp he was the chemist, collecting plants useful for medicaments. His high knowledge of the plants was of practical value at that time." Von Arx's dates for Boedijn's internment, 1943-1946, seem improbable. By 1943, the Japanese had been in full control for the better part of a year and the dates of Donk's internment, 1942-1945, are accurate. By 1946, the Japanese had surrendered in mid-1945, and Donk was released shortly thereafter. Donk (1965a) did not mention Boedijn's experience under the Japanese.

Circumstantially, Donk must have anticipated his arrest before actual incarceration — early enough to allow him some time to sequester his

professional and household belongings. Later, after release, he referred to three large manuscripts left behind in Buitenzorg. On these, more below. Donk was also reluctant to share stories of his treatment, and, at the time of this writing (2022), relatively few people remain who knew him personally, but a few anecdotal incidents remain.

"After the war he told me how he saved the lives of many of his fellow internees, and perhaps also his own, by succeeding in culturing a yeast which grew in palm inflorescences inside the camps, and thus fermenting rice which provided a minimum of vitamins necessary for survival" (Donk to Singer 1973). Food had decreased to only a few grains of rice per day, but Donk persuaded inmates to contribute a single grain a day per man to make a mass large enough to be viable (Donk to RHP, pers. comm.)

"One evening he told a story of being with other prisoners paraded down a street of the prisoner of war camp for 'public' display, and seeing his wife, Uda, in the crowd, he surreptitiously acknowledged her by touching his glasses. A guard saw it, grabbed his glasses and crushed them under his boot. Uda said he was so gaunt he was nearly unrecognizable." (Donk to Burdsall to RHP pers. comm.) From that moment forward, his poor eyesight went uncorrected. Malnutrition was added to chronic malaria.

Donk related that he had no access to toiletries, including a razor, and thus grew a straggling beard. One day, when the prisoners lined up for inspection, one of the officers struck a match and burned his beard off, causing superficial burns to his cheeks. (Donk to RHP, pers. comm.)

Donk was interred sooner than Uda, but her day also came. They were held in separate gender-exclusive camps. Donk's Japanese keepers informed him of Uda's death, and reciprocally, reported Donk's death to Uda. When eventually freed, therefore, neither had hope of reunion. It would seem to have been a gratuitous act of cruelty (Donk to RHP, pers. comm.)

Both Donk and Uda were, of course, thrilled to find each other after release from Japanese prison camps. Clouding their joy was broken health, and the loss of Donk's prized manuscripts, illustrations, and notes.

"Upon finally returning to his laboratory, [Donk] found that his three unpublished manuscripts prepared in his Javanese period had been destroyed or lost during or immediately after the war." According to Maas Geesteranus (1973), these were three manuscript copies of an unpublished mycological textbook. The textbook manuscript was accompanied by over 500 illustrations, also lost. Of the other two large items, there are some differences of opinion. Donk, himself, referred to the two parts (taxonomic versus nomenclatural) of

"The genera of Hymenomycetes," but Watling and Ryvarden (pers. comm.) opined differently, on a significant paper on the larger fungi of the Dutch East Indies. Understandably, Donk blamed the Japanese for the losses.

Not long after his release from Japanee internment, Donk became aware of E.J.H. Corner's continued presence in Singapore. That city had been overrun by Japanese forces and large numbers of British emigres had been incarcerated, many treated as cruelly as the Dutch to the south. Corner, however, had had the good fortune to find one of the Japanese bureaucrats who appreciated nature and Corner's work on fungi. For the duration of Japanese occupation, Corner was held in house arrest and continued his work on two large etudes; 1) a monograph of the clavarioid fungi; and 2) the Durian theory (Corner 1949). The resultant manuscript on clavarioids, including many illustrations, survived the war and was published post-war (Corner 1950). The Durian theory was extended thrice (Corner 1953, 1954a, b). Corner later wrote a book about his war-time experiences (Corner 1981). Donk considered Corner to have been well-treated by the Japanese under questionably hospitable circumstances. Corner's (1991) obituary for Rokuya Imazeki, the Japanese mycologist, supported this conclusion. It made for an awkward relationship between the two (Donk to RHP, pers. comm.).

After three years of constant humiliation as a prisoner, Donk dreamed of the completion of his major works, recognizing that recovery of health would be prolonged but essential, but it was not long before yet another perturbation was identified. Immediately upon Japanese surrender, Sukarno and Mohammad Hatta declared Indonesian independence on 17 August 1945, and Sukarno was appointed president. The proclamation, of course, did not include submissive resignation by The Netherlands, itself hardly rescued from German occupation. Obvious were major tasks of repatriation of Dutch colonialists from Indonesia and shipment of military forces to combat the nationalists. What could the Dutch ex-patriots find in their "native" country, which many had never before seen? Conversely, there were understandable second thoughts by Dutch soldiers, withdrawn from the European front to steam some weeks to fight in the stifling Pacific tropics.

The Pacific Theater of World War II ended in August 1945, with the surrender of Japan. Most of the Indonesian islands had been bypassed by Allied forces bent on eventual invasion of the Japanese home islands, but Japan's surrender also quickly depleted the camps of expatriots and Indonesians. Donk was released in 1945, and Boedijn in 1946 (Arx, 1966). Donk's health was fragile, but he and Uda were reunited. Soon, Donk (1951) learned of the fate of his manuscripts

for "Genera of Hymenomycetes." Moreover, his 1941 nomenclatural paper had been published but hardly disseminated. "As a consequence of the war the text [for 'Genera of Hymenomycetes'] that went to the printers, the already printed sheets, as well as the trunk containing the carbon-copy, nearly all the notes on which the manuscript was based, and about 500 especially prepared illustrations were destroyed. However, a carbon-copy of the nomenclatural part, abandoned several years before the book was finished, was retrieved."

Detailed information on Donk's life in Java during and after the Indonesian Revolution has not survived, but he was named Keeper of the Herbarium Bogoriense (the new title of the Herbarium of the Botanic Garden at Buitenzorg; 1947-1955), and Deputy Professor at the University of Indonesia (1952; Donk First Nature 2022), in Bandung. Administrative duties added to lecturing to students now took increased time and energy away from research. The new appointment, of course, came from The Hague, not Batavia (later renamed Jakarta, the seat of Indonesian government).

A brief acknowledgement in a couple papers (i.e. Singer & Smith 1948) indicate that Donk (1948b) travelled to the United States and Britain shortly after the War. Donk: "I am much indebted to the late Dr. D.H. Linder, Farlow Herbarium, Harvard, for his kind permission to work in the collections under his supervision, and to Dr. R. Singer, Farlow Herbarium, for his highly valued assistance" (Donk 1948b). Linder died in late 1946, but Donk's reference to him in the preent tense implies that Donk's visit was prior. Much later, Singer (1973) referred to Donk's time at the Farlow as "several months," and Donk (1948b) implied that this time was spent largely in the Farlow Library, searching for obscure literature. Donk's travels were surely part of a rehabilitation agenda and, considering his appointment at the Bogor Botanic Gardens, must have carried official permission, but considering the post-war economic state of The Netherlands, much less an Indonesia in revolution, financial support may have been difficult to find. After his return to Java, Donk's title was "Keeper of Herbarium Bogoriense." Note that this was not head of the Botanical Gardens, but only the herbarium.

Sukarno had spent over a decade under Dutch detention until released by the invading Japanese forces. He and his fellow nationalists collaborated to gather support for the Japanese war effort, in exchange for Japanese aid in spreading nationalist ideas (Sukarno 2022). He grew more radical than ever.

The rest of the world had shuddered in war, but mycological research and nomenclatural considerations had not ceased. By early 1949, one small detail had confirmed Donk's conclusion about whether the fungus names in S.F.

Gray's "A Natural Arrangement of British Plants" were acceptable as post-Friesian. Rogers's (1941) careful, documented research had clearly pointed to Gray's date as post-Friesian, a point gladly conceded by Donk.

After two postponements of International Congresses during the war, concrete plans for a Congress in 1950, in Stockholm, were afoot. Donk felt that he had to make up for lost time. In January 1949, his revision of the 1941 paper appeared (Donk 1949a). "Some years ago, I proposed a number of 'Nomina generica conservanda and confusa for Basidiomycetes (Fungi)' [Donk 1941] ... intended to be brought before a forthcoming International Botanical Congress. In the course of time it was found necessary to amend in one way or another most of these proposals mainly on account of these factors... The very same reasons that necessitated such a large-scale recasting of several of the previous proposals, also prompted the formulation of new ones. Moreover, a few new proposals are due to the fact that I have been able to consult some publications not accessible to me before, or that I finally came to a decision upon such proposals as I already had in mind for a considerable time. I am much indebted to the authorities of the libraries of the Kew Herbarium, the British Museum, and the Farlow Herbarium for facilities." Donk's visits to these institutions took place in 1946.

After some months in The Netherlands, Boedijn returned to Indonesia in 1947, and restarted his work as professor at the Agricultural Faculty of the University in Bogor. The Indonesian Revolution was at its peak as Dutch-controlled areas dwindled, but real peace was still elusive.

Almost parenthetically, another Dutch botanist was added to those already in Indonesia. Frans Antonie Stafleu (1921-1997), with a fresh doctorate from Utrecht under Dr. A.A. Pulle (also Donk's PhD supervisor), was posted to Java in 1948, in the waning days of the Indonesian Revolution. His appointment as a geneticist at the Sugar Experiment Station at Pasoeroean (now Pasuruan, in far-eastern Java far from Buitenzorg/Batavia) seemed unrelated to his thesis, which was a taxonomic treatment of a tropical genus of flowering plants. Although surely Donk knew of Stafleu's arrival, they occupied different positions widely separated geographically, and probably did not seriously interact. Stafleu did not last long in Java.

Just as Posthumus had met a violent death in revolutionary times (Donk 1949b), Stafleu witnessed a deterioration of law and order as the Revolution waned and Dutch authority weakened. Farjon et al (1998) told Stafleu's story, "... in that year [1949] independence came and the Indonesians were not favorably disposed toward Dutchmen, regardless of whether their intentions

were colonial exploitation or foreign aid work. Although at first Frans still enjoyed some freedom of movement and during that time visited several forests on Java's volcanoes as well as the mangroves, it soon became impossible to leave the research station and town without a military escort, and the Dutch researchers and other staff became virtual prisoners. The tropical climate and the type of work he had to do were added disincentives to him, and so after less than a year … Dec 1949, Frans and Letty [his wife] left by cargo ship, arriving home [in Netherlands] in Feb 1950." Donk, on the other hand, stayed on, perhaps fearing, for good reason, for the fate of his, by now massive and growing notes and personal library.

When Frans Stafleu returned to The Netherlands after his perfunctory months in post-revolutionary Indonesia, he luckily had to choose between two rather good jobs. The first was with van Steenis, also returned from Indonesia, to contribute to the Flora Malesiana, stationed in Leiden. The second was with Lanjouw at Utrecht to assist in the formation of the Lanjouw-proposed International Bureau of Plant Taxonomy. Familiar with the personality of Lanjouw and the comfort of returning to the site of his education, Stafleu chose the latter.

CHAPTER 8. NOMENCLATURA REDIVIVA

As a significant aside, it is important to understand that botanical nomenclature is only an appendage of the program at International Botanical Congresses, especially before 1950. Equally, mycology traditionally was a poorly regarded, sometimes irritating participant in botanical nomenclature, always subject to the oversight of the supernumerary plant systematists. Finally, individuals active in mycological nomenclature are truly the hair on the tail of the dog — small frogs in a very large pond.

World War II interrupted the scheduled progression of botanical congresses. Amsterdam in 1935 was followed only fifteen years later by Stockholm in 1950. Anticipating Stockholm, however, a small group of Dutch botanists saw a need for a conference on botanical nomenclature, and convened it in Utrecht in 1948 (Stafleu 1988; Cowan and Stafleu 1982). The convener, Joseph Lanjouw (1902-1984) and his assistant, Frans Stafleu, drew up the plans. Invitations followed and the symposium, confronted with numerous proposals, was convened. It was the first time botanical taxonomy and nomenclature formed a relationship with the United Nations Educational, Scientific and Cultural Organization (UNESCO), through its subsidiary, the International Union of Biological Sciences (IUBS). The conference proceedings were summarized by Lajouw (1950).

The "Utrecht Symposium" produced a large volume (255 pages) of proposals, which had been discussed and (informally) decided. While perhaps less than democratic, this conclave greatly simplified things at Stockholm, and also made Lanjouw's name synonymous with botanical nomenclature. His assistant, Frans Stafleu, shared the credit and partnership, and "Lanjouw & Stafleu" became biblical for at least two decades.

The business of the conference itself was approved with some enthusiasm: the International Association for Plant Taxonomy (IAPT) was launched, to be facilitated by the Internation Bureau of Plant Taxonomy, with Lanjouw as President and Stafleu (Fig. 24) as Scientific Secretary. The IAPT was to have its own journal, titled Taxon, and was to oversee the compilation of the International Rules of Botanical Nomenclature — both its editorial governance and protocols for change. An Advisory Board of Nomenclature included A.A. Pulle, major professor of both Donk and Stafleu and a life-long student of tropical flora.

The list of members of the new IAPT included no mycologists! On the first managing Board of IAPT (Anonymous 1951), only John Alex Nannfeldt (Sweden) represented mycology, although he, too, had a history in plant taxonomy and ecology.

The Special Committee for Fungi (lichens not yet included) was composed of 18 individuals: Boedijn, Donk, Martin, and Singer were co-opted. The Stockholm Congress was missed by C. L. Shear (Stevenson 1957), the long-serving chairman of the Committee, due to ill health and aging. He had been engaged with fungal nomenclature for a half-century (Shear 1902). Rogers was appointed Chair (probably by Lanjouw) and remained as Secretary of the Committee until 1964 (Stevenson & Rogers 1950).

One of the first projects undertaken by the fledgling International Association for Plant Taxonomy (IAPT) was Index Nominum Genericorum, a compendium of generic names of plants (which then included fungi), their histories and nomenclature (Farr et al., 1979). In many ways, the Index had Donk's "The Generic Names for Hymenomycetes" as a model. Surely, they mined and reported similar data.

Fig 24. Frans and Lettie Stafleu. 1972. Source: RHP.

Before the year was over, Donk (1949c) had received a paper by Singer & Smith (1946), which necessitated yet another revision of their proposed amendments to the Rules. Donk may have thought his own proposals would also be considered before the 1950 Stockholm Congress, Committee Secretary Rogers (1949a) dismissed that notion. In a footnote to his own proposals, Rogers wrote: "Two valuable papers by Donk arrived (IV 18 1949) while the present [Rogers's], completed for literature received through December of 1948, were in press; unfortunately they [Donk's papers] cannot be discussed here." One of the papers was "New and revised nomina generica conservanda proposed for Basidiomycetes (Fungi)." Donk's 1941 paper was included in the bibliography, but Donk's first 1949 paper (Donk 1949a) was not mentioned at all.

In Java, in the midst of other botanical activities, the Bulletin of the Buitenzorg Botanical Gardens was succeeded by a new title, Reinwardtia, so Donk's 1951 paper was not in a different journal but merely under new covers. But additional responsibilities came as "EDITORS. M.A. Donk (Herbarium Bogoriense) and C.G.G.J van Steenis (Flora Malesiana)." One of the first papers in Reinwardtia was by Boedijn & Reitsma (1950).

On more than one occasion, Uda Donk wistfully rhapsodized about their days in Buitenzorg. "In the cool of the late afternoon, served a cool drink on the porch of the residence - it was a lovely life," she said. [Uda Donk to RHP, pers. comm.] Given their interment by the Japanese, then the struggle of nationalism directly after this "lovely life," her memory must have been before WW II. Times had changed and would continue to do so.

At the end of the War, as the East Indies broke out in rebellion against the Dutch, for many of the expatriates life continued uncomfortably, but after a short stay in the Netherlands, Boedijn returned to Indonesia in 1947, and restarted his work as professor at the Agricultural Faculty of the University in Bogor (Arx 1966). Von Arx (Arx 1966) wrote that "Owing to political troubles Boedijn went back to Europe in 1958." Donk (1965a) called it retirement, for Boedijn had reached 65. In The Hague, Boedijn was surrounded by his books and personal herbarium, and continued to publish on his observations on Indonesian fungi. Understandably, he moved his publishing outlet from the Buitenzorg Bulletin to other, handier journals; Mycopathologia & Mycologia Applicata, Sydowia and the newly founded Persoonia.

Sukarno led the Indonesian resistance to Dutch re-colonization efforts via diplomatic and military means until the Dutch reluctant recognition of Indonesian independence in 1949 (Indonesian Revolution 2022). Once the documents were signed, though, a period of significant unease descended

(Romijn 2020). As elsewhere, in Indonesia three stress points had to be survived: first, the Dutch had made little effort to encourage or train indigenous people in positions of leadership or responsibility; second, it took some time to calm blatant lawlessness in the wake of withdrawal of Dutch law enforcement; and third, government offices and facilities had to evolve into ethnically mixed institutions (Steedly 2013). That Boedijn and Donk remained at their posts through the revolution and beyond was, in part, due to the skill with which governance was exchanged after Dutch surrender. To some extent, Dutch largesse continued as "Foreign Aid" rather than support of a colony, a cause more meaningful than mere semantics. This sentiment was echoed by Frans Stafleu (1988).

An example of the period after Japanese surrender was reported by Donk in a memoriam to Dr. Oene Posthumus (1898-1945). "This active and many-sided life was cut short when he was kidnapped by the mob after the Japanese surrender in Java. What happened afterwards to this innocent man is not precisely known but it is assumed that he was cruelly murdered. His body was never identified with certainty" (Donk 1949b). "The mob" surely referred to uncontrolled rioters striking out against Dutch colonials.

For Donk, there followed a period in which the prospect of starting over in mycology, fragile health, rehabilitation from malnutrition, probable disruption of the extended Donk family in Java, mutual nursing by Donk and Uda, all contributed to debilitating depression (Donk to RHP, pers. comm.). The death of his colleague, Posthumus, added to Donk's (1949b) morosity. He passed the time in studies on pteridophytes (Donk 1948a, 1949a), his hobby (Donk 1949d). A carbon copy of a long-lost nomenclature part of "The genera of Hymenomycetes" was unearthed, however, which perhaps sparked some hope that work could resume in mycology.

The eventually encyclopedic *Flora Malesiana* began publication in 1950, under van Steenis as General Editor (*Flora Malesiana,* 2022). The dedication painted a superficial picture of cooperation. "Published jointly under the auspices of the Kebun Raya Indonesia, Bogor, Java; Botanic Gardens of Indonesia, Bogor (Buitenzorg) and the Rijksherbarium, Leiden, Netherlands." The preface by H.J. Lam, Director of the Rijksherbarium, Leiden, concisely traced the "Flora" through its development and execution. Insightfully, Lam wrote: "… I wish to congratulate the Government of Indonesia on its wisdom in supporting the publication of this great work. This is why I wish that, even in the admittedly difficult years to come, the wise policy of accepting the inheritance in a truly scientific and impartial way and of welcoming support from foreign

experts…" All worthy goals. The lengthy introduction by van Steenis (1950) summarized the history of East Indies botany with compact biographies of the botanists involved. Mycology was only mentioned in passing (Reinwardtia 2022).

The first version of the International Code of Botanical Nomenclature (Candolle, A. L. de. 1867 Lois de la Nomenclature botanique redigees et commentees .... V. Masson et fils, Paris. 60 pp; see Nicolson 1991) was intended to crystalize commonly agreed-upon rules for the naming of plants. Like any such document, its early editions were fraught with the vagaries of interpretation: it tended to be legalistic, although enforcement of its articles was not by "botanical police," but by the botanical community at large, which included journal editors and expert colleagues dealing with the same group of organisms. If anything, it intended to be democratic. But anyone who agreed to abide by the Code had to understand the rules "by which the game was played," which often depended on the meaning of words, phrases, or articles. As Donk (pers. comm.) was wont to borrow from Ramsbottom (1942), "Nomenclature is the handmaiden of taxonomy, not the mistress." All decisions about circumscription, placement, and rank were to be made before seeking the correct name for the taxon.

The imposition of rules in the naming process threatened to wreak havoc on the very names in common usage when such names ran afoul of "correctness." Two solutions were envisioned: apply the rules and eventually, after protracted pain, correct names would be revealed, accepted, and used, or alternatively, some accommodation could be written into the Rules to preserve names in common usage, especially names used by workers in applied fields (for mycology this would include plant pathology, genetics, etc.), and with a long historical record. Such names of genera and species could be "conserved." The second alternative seemed more attractive.

Furthermore, names for conservation could be proposed by botanists, including mycologists, and if a majority of attendees at the nomenclature sessions of a Botanical Congress voted in the affirmative, the name would be put before the entire Congress and if again approved, that name would join a list of such names as nomina conservanda. An added protocol: require that each proposal for conservation also include the name(s) to be rejected, and the reasons for both conservation and rejection.

Conservation of names (species and genus) was a "hot" topic at the Amsterdam Congress in 1935. There had been no action at the Ithaca Conference, 1926, or the Cambridge Congress, 1930. Perhaps some action

could be taken in Amsterdam. But due, at least to logistical circumstances, Donk missed the Amsterdam Congress. Nicolson (1991) listed no less than 20 papers (and probably did not consider a like number) dealing with the subject between 1933 and 1935. The entire protocol was settled upon at the Amsterdam Congress.

For the present paper, exasperatingly, there is inherent confusion in reconstructing the publication dates of papers cited below, versus the time at which they could be received by other workers. The discrepancy is largely due to slow means of communication between individual workers during the time span covered. International postage was slow and cumbersome, especially if documents of some size were included. Even if transatlantic communication was manageable, incoming and outgoing in the Dutch East Indies often took several months. While sporadic airmail existed, often outgoing airmail wound up in the holds of cargo ships bound for Europe, only after which could airmail be hoped for. Of course, pofessional journals were affected: Mycologia, from the United States, was more widely and efficiently disseminated than Bulletin of the Botanical Gardens of Buitenzorg, from the Dutch East Indies. For the present narrative, an attempt to recognize this situation has been made by comparing bibliographies and commentaries within publications.

The results of the Amsterdam Congress were reported by Linder & Seaver (1936): "The matter of nomena [sic] specifica conservanda seems to have been fairly definitely settled by the rejection of proposals that were brought forward to validate this procedure. On the other hand, the list of nomena [sic] genera [sic] conservanda remains to be settled and to this aim it was proposed and carried that names to be conserved before final acceptance by the [next] congress should be submitted to the careful scrutiny of each group of botanists [of which one was the Committee for Fungi, with Cornelius Lott Shear (1865-1956) as Chairman] ... In this manner the hasty acceptance of genera to be conserved was avoided and violence was not done to the nomenclature of the specialized group." Put concisely, decisions on conserved genus names were reached at Amsterdam, but rules were also accepted which established a more stringent protocol for such proposals. The next Congress, to be held in Stockholm, Sweden, was planned for 1940.

The Amsterdam Committee for Fungi included: Shear, C. L., United States (Chairman); members: Ramsbottom, J., England; Maire, R., France; Wakefield, E. M., England; Pilát, A., Czechoslovakia; Seaver, F. J., United States; Boedijn, K. B., Holland and Java; Nannfeldt, J. A., Sweden; Ciferri, R., Italy; Trotter, A., Italy; Weston, W. H. Jr., United States; Lutjeharms, W. J., Holland.

Names not appearing on the Committee were M. A. Donk, G. W. Martin and D. P. Rogers. Martin was already well-established and considered a leading mycologist in the United States, but Donk and Rogers (Martin's student) were young and had no cachet in nomenclature.

Donk would have taken issue with the Linder & Seaver (1936) report. Genera were not the issue, he would say, but generic names. Acceptance or rejection of genera was a taxonomic act; acceptance or rejection of generic names was nomenclatural.

Linder and Seaver (1936) continued with other topics not settled in Amsterdam. [1] "The proposal that Friesian subgenera of *Agaricus* be recognized as genera, with Fries as the authority, although receiving some support because of the ease and simplicity of settling the question in this way, nevertheless was rejected on the ground that it was unscientific, inaccurate, and led to carelessness. … [2] The principle of usage in the choice of type species to represent genera was strongly opposed since it was felt that usage in different countries varied greatly and hence that method could not help in stabilizing nomenclature. Therefore, this subject was also referred to the committee on mycological nomenclature." On all items, Donk had firm judgements, but they were not yet promulgated.

Assuming that a Congress was to be held in Stockholm in 1940, Wakefield (1940) reported on the deliberations of a committee on Nomina Generica Conservanda of the British Mycological Society, of which she was Secretary. The introduction to that paper was an excellent summation of previous work, including the reliance of the Committee on provisions dealing with Phanerogams. The second portion of Donk's "1933" thesis was cited in text.

With risk here of over-covering the details of this subject, Wakefield (1940) referred to a paper by Rogers (1939) in which two rare volumes of Fries's Observationes Mycologicae had been found with date of 1824. This revelation ran counter to commonly accepted dates of 1815 and 1818 (Fries 1815, 1818); Donk accepted the latter dates. While Rogers's paper was simply reportorial, which therefore could not provoke any animosity, it did challenge Donk's hypothesis that Fries's Observationes were "pre-Friesian" (i.e. before 1821). The difference, based on Rogers' data, did nothing to sooth hard feelings already chafed by basidial terminology.

The next Congress, though, was not held until 15 years later (1950) in Stockholm; formal nomenclature came to an abrupt crawl in the face of war.

Donk's 1941 migration west from Soerabaja to Buitenzorg brought a new title, enhanced research resources, and encouraged association with fellow

botanists. This put at his disposal a fine botanical library and the collections of previous workers, even though Blume had sequestered much of the collection for the Rijksherbarium back in Holland. Surely not consciously, Donk's major two-part study on Dutch Hymenomycetes and his difficulties with its inherent nomenclature (Donk 1941) set the course for his (Donk) career. In that paper, Donk's address was "Herbarium Buitenzorg."

Donk (1941): "It is now about ten years ago that I started to compile a book for which 'Genera of Hymenomyctes' was selected. I intended to bring together diagnoses of all the genera of that group, according to a subjective and new proposed scheme of classification. Nearly from the start it became clear that the nomenclature of the Hymenomycetes was still in a much worse condition than was originally supposed and that the taxonomic work had repeatedly to be interrupted to investigate the nomenclative side of the task. This procedure has resulted in a double 'Genera of Hymeomycetes," viz. a taxonomic and a nomenclative part, both of which were finished about two years ago [i.e. 1939]. The entire work has gone to press, but printing progresses very slowly. Yet it is expected to be finished next year.

"In the nomenclative part several proposals are made and since the International Rules of Botanical Nomenclature demand one hundred copies to be submitted to the Executive Committee, I have collated them in a slightly different form in a separate paper presented here adopted to the requirements of the next congress."

Donk's (1941) compilation of proposed Hymenomycetous generic names for conservation amounted to 25 proposals, tabulated in 2½ pages, but the notes explaining these proposals covered 23 pages, and, perhaps most precociously, comments on proposals by others, 12 pages.

Donk was prone to be somewhat flippant or outspoken. On the proposal by the acclaimed René Maire (1935 Int. Rule Bot. Nom., 3 Aug., 123) to conserve *Agaricus* Linneaus ex Fries against Psalliota Quélet and *Pratella* Gillet, Donk (1941: 183) wrote: "For those who agree as to the type species (and I don't think that at present anyone would not), there is not the slightest reason to make a proposal of this kind and to charge the list of conserved names with such an unnecessary burden." Donk was 33 and in Java; René Charles Joseph Ernest Maire was 57, in French-speaking Algeria, and already commanding the respect of the community of mycological taxonomy.

An example of the consequence between the young and "undiscovered" Donk and venerable Maire can be seen in a paper by Singer & Smith (1946), in which 198 genus names were taken up for agarics (surely part of

Hymenomycetes) without mention of Donk's 1941 paper. Conversely, a whole section was devoted to the nomina generica conservanda proposita by Maire.

In 1942, in the depths of war in Great Britain, the much-honored John Ramsbottom (1885-1974; 1942) delivered a speech to the British Mycological Society. His topic, mycological nomenclature, dove into the idea of conserved species epithets and genus names. First, attributing proposals for nomina specifica conservanda to Guy Bisby at Kew, Ramsbottom agreed that the proposals should be rejected wholesale. But conservation of genus names had a longer and more complex history. Saccardo had prepared a list of proposed names for conservation for the Vienna Congress in 1905, but the list was not published. "Lists by Maire, Shear and Jaczewski were before the Amsterdam Congress, but as these were bald proposals it was unwise to vote on them. When nothing seemed likely to be done otherwise before the Stockholm Congress [proposed for 1940], I proposed that the Council of the British Mycological Society should set up a Committee to provide the evidence on which judgment might be based. This Committee has done excellent work ..." [see Wakefield 1940 above] There was no mention of Donk's (1941) publication; it was as though Donk had not written his 1941 paper. According to Singer & Smith (1946), Shear's list, to which Ramsbottom referred, was "multigraphed" but not published.

On the other hand, Shear (1943) wrote: "Having just had an opportunity to peruse Dr. Donk's [1941] article on the conservation of generic names, I am moved to make a few remarks ..." Given an "in press" period, Shear probably saw Donk's paper in late 1942, almost a year after it was published. Conversely, Donk could not have read Shear's paper because he was in a Japanese prisoner camp.

Shear's remarks were presented in narrative form, not tabular. Conservation of selected names was conceived to aid in stabilization, he wrote, but he took issue with the laborious and tedious studies exemplified by Donk's effort. If such time and energy was necessary for each conserved genus name, there must be an easier and more efficient way to solve the problem. Complicating the process was choice of a type species (and its type specimen and diagnosis) for each genus, whether conserved or rejected, and complicated starting points for mycological names. Correctly, Shear acknowledged the library work necessary to formulate each proposal. Overlooked, though, was that Donk had actually already done the work for his set of proposals, which now only sought a vote of approval.

Somewhat inconsistently, Shear advocated conservation of species epithets, which would require countless additional searches. Although repeatedly brought before Congresses over the next half-century, nomina specifica conservanda has been consistently rejected.

Incredibly, Shear (1943) cited another Shear (1902) paper, "Generic nomenclature," which outlined the same problem, advocating assignment of a type species to generic names in order to stabilize nomenclature. Shear was venerable, indeed.

From Donk's proposals for conservation of selected genus names, Martin (1943) singled out Donk's (1941) proposal to conserve "Auricularia Bull[iard] ex Secr[etan]; Mycographie Suisse" and several other items, mostly dealing with dates and publications not available to Donk prior to his publication. One was Donk's assumption that S.F. Gray's books were "pre-Fries." Rogers had showed otherwise. Probably also irking (to Donk), Martin wrote: "I am indebted to Dr. D.P. Rogers for copying from the rare volumes in which there occur several of the references cited." This echoed the exchanges over basidial terminology in the 1930s.

After the War, Donk (1949a) showed his distaste for Martin's paper: "It is asking too much to be really as assured as Martin is concerning the relative dates of Fries' and Gray's works being definitely fixed; they may be taken as provisionally sufficiently established to serve as a basis for a working hypothesis – no more. ... For many years I gathered evidence about the real dates and the variants of the various parts of Fries' Systema. My notes were all burnt and I refrain from pressing the point of the date now until I have gone into the matter afresh." As to Martin's report that Donk had passed over prior literature to find one that suited him, Donk wrote a withering paragraph beginning with "This stuns me."

Also in 1943, a significant paper by Rogers and Jackson (1943) appeared in the new journal Farlowia. Although its title did not deal directly with nomina generica conservanda, the necessary research supporting its subject matter was similar to that used by Donk (1941).

Rogers had had the advantage of a prior one-year fellowship through which he was at the Farlow Library and Herbarium at Harvard University, with its extensive mycological library and herbarium holdings. Donk visited there in 1946.

Rogers & Jackson (1943) stated that two intentions were put forward in their paper: "An object of this study has been to discover identities between European and American species, and between species described from

incomplete observations…; A second object … has been to determine, so far as is possible, the correct name for the species treated; it is hoped that these two objects, the taxonomic and the nomenclatural, may contribute to a more stable ultimate nomenclature…. It is not the purpose of the present paper to attempt any revision."

The authors took pains to state: "The present work includes *Sebacina* of the *Tremellaceae, Tulasnella* and *Gloeotulasnella* of the Tulasnellaceae, and in the Thelephoraceae the older genera *Aleurodiscus, Asterostroma, Coniophora, Hypochnus, Corticium* (in the broadest sense) and *Peniophora*." Some of these generic names had been dealt with taxonomically previously (Rogers 1932, 1933a, b, 1935, 1939, 1943) and resulted in the exchage on basidial terminology.

Meanwhile, Donk was surely unaware of all of Rogers' 1930s papers until he moved to Buitenzorg in 1941. Even then, the Iowa papers were surely not available, so Donk would not see the results of Rogers' dissertation research.

Later starting points: Among the qualifications required of any "plant" name to be acceptable for use by "botanists," the earliest codification stipulated that the name be a binomial, and the start of the binomial system was accepted as Linnaeus's (1753) "Species Plantarum." By the turn of the 20th century, however, there was general agreement among mycologists that coverage of fungi by Linnaeus in "Species Plantarum" was insufficient, and was open to too much interpretation to be useful as the book on which nomenclature of fungi should start. This, of course, clearly separated the mycologists from the plant botanists, a separation that would widen over succeeding decades.

At the Brussels Congress of 1910, a committee of mycologists put forward a motion to declare (transl.): "Mycological nomenclature begins with Fries, Systema Mycologicum, yrs. 1821-1832, with the exception of the Uredinales, Ustilaginales, and Gasteromycetes, for which the starting point falls to 1801 (Persoon, Synopsis Methodica Fungorum); reserve a list of nomina generica conservanda for elaboration" (Wildeman 1910). Careful reading reveals that for one group of fungi the starting point was a set of books (Fries, Systema), but for others, it was a date (1801). For more on this subject, see Petersen (1977).

It took over 20 years before C. W. Dodge (1934) proposed to change the rule for starting point for fungi by deletion of "-32" from the starting point. The result would violate history: the volumes of Fries' Systema and Elenchus were not published simultaneously, but Dodge's proposal changed the emphasis from dates to books.

Inherent in the imposition of starting dates later than 1753 were protracted searches for fungus names published before or after the imposed date. For

example, it was not long before volume two of S.F. Gray's Natural Arrangement ... (1821), which included significant numbers of fungi, some of which were named for the first time, came under scrutiny. If Gray's fungus names were published before Fries's Systema, they were not validly published and therefore suppressed, but if post-Fries (that is, later in 1821 than Fries's Systema, they could be searched for valid names.

Donk (1941) took one side of the argument; he assumed that Gray's volume antedated Fries and thus could be discounted. Rogers (1941) reported a more accurate date for Gray's volumes, concluding that Gray's volumes were published in the middle of 1821, while Fries's volume was "legislated" as January 1. Donk (1949a), therefore, had to revise some of his proposed nomina generica conservanda intended for the 1950 Stockholm Congress.

Among other subjects, Donk missed discussion of later starting points at the Amsterdam Congress, 1935. Linder & Seaver (1936) listed the committee (of 12 members) which would consider the problem. It included "Boedijn, K.B., Holland and Java," but not Donk, who had yet to be "discovered." Instead, as reported later by Donk, he was engaged in compiling a book, for which he had selected the title "The Genera of Hymenomycetes."

As an example of how starting points for fungi impinged on the nomenclature of generic names, Donk (1949b) wrote the following: (317) "Only a few months after I felt obliged to draw attention to the fact that Quélet (1872) was not the first author to deal with Fries' tribus or subgenera of *Agaricus* as genera, but that he had a predecessor in Kummer (1871), fate played me another trick. I came across a still earlier publication in which several of Fries' tribus and some of his series of *Agaricus* were raised to generic rank, many years before this was done by Kummer. A more or less popular treatise on fungi by Staude (1857) is the work for which I have this time the dubious honor to ask attention.

"It is true that I stated that I should not at all be surprised if in the future it would be demonstrated that Kummer too had a predecessror, but I had reasons, I believed to hope for the contrary. One of these was that I did my utmost to find such a possible predecessor and that I made a thorough search for him in some of the greatest mycological libraries of the world, such as those of the Kew Herbarium, the British Museum, and Farlow Library. Only after I could find none, I endeavoured to take some of the consequences of having stumbled on Kummer's booklet, and that not but after long hesitation. Staude's book I came across — in the cryptogamic library of the Buitenzorg Herbarium, a library to which I had had access for many years! In a still more humble fashion I now restate — slightly adapted to meet the occasion — that I should not be at all

surprised if in the future it would be demonstrated that Staude and Kummer too had their predecessors.

"It is on purpose that both Staude and Kummer are mentioned in the last sentence, for Staude raised to generic rank nearly exclusively Fries' tribus of *Agaricus* ser. Leucospori, and not those of Fries' other series…" [footnote: "Some mycologists will certainly be reminded of C.G. Lloyd's picture of Prof. McGinty discovering the name 'Anthropomorphus.'" [see Petersen 2022]

[319] "Thus, of the Tribus of the leavisporous series of *Agaricus* in its original broad sense of Fries of 1821, Staude must be taken as the author of the corresponding generic names *Armillaria, Tricholoma, Clitocybe, Collybia, Omphalia* (Fr. 1838) [not *Omphalia* (Pers.) ex S.F. Gray 1821], and perhaps *Pleurotus*. These generic names are, incorrectly, ascribed to Quélet (1872) by modern authors: of *Tricholoma, (Clitocybe), Collybia,* and *Omphalia*, the authorship I recently attributed, also incorrectly, to Kummer (1871)."

Donk (1949b) having turned attention to Staude, Rogers (1950) took issue with Staude's intention, to which Donk (1954a) answered. As so often previously, the two nomenclaturalists did not see eye to eye.

But Staude's ghost continued to haunt. Singer (1955) revived the subject with some significantly less than tepid language. [270] "In a recent paper on nomenclature questions, Donk insists some of Staude's subdivisions of the gill fungi are Friesian tribus or subgenera elevated to the rank of genera. Such an interpretation is untenable, as has been pointed out by Rogers [Farlowia 4: 22. 1950]. …" [271] "… we might still consider the alternative explanation given by Donk which assumes that Staude's reason for inconsistency was the fact that the engraving date of his plates was earlier than the date of his decision to give the Friesian tribus the status of genera (manuscript). But this assumption is not at all supported by facts, lacks probability, and seems to have been made ad hoc. What really happened was that a man totally unqualified to deal with the subject dealt with it nevertheless, but fortunately, in such a confused manner that uncertainty about the status of his taxa makes it possible to consider them invalid."

[271] Singer compared the acceptance of Staude's genera as elevations of Fries's tribus to acceptance of Quélet's genera (also elevations of Fries's tribus to genus rank). In some cases (unnamed), "…The author who suggests that non-acceptance of his viewpoint re Staude leads to wholesale 'murder' of genera forgets that an analogous argument is in order in the case of *Pellicularia* [see Rogers, 1943] differing from Donk's own merely in one particular: that it is a valid argument…." [272] "This practice of refraining from considering such

basidiomycetous fungus names nomina confusa is undoubtedly a sound one inasmuch as, in this case and not in the case of Staude's ambiguity, a wholesale slaughter of available taxa would, by necessity, result, and nothing would be gained by an interpretation of Art. 76 such as suggested by Donk." "Murder—" "slaughter" – words Donk recalled some years later.

Parenthetically, by 1955, Singer was in Tucuman, Argentina; Rogers was in New York City, and Donk was still in Bogor, Java. Mycological nomenclature was a worldwide issue.

Rogers (1951) published a modest paper in which the date of Mérat's (1821) "Nouvelle Flore" was established and its relative chronological position vis a vis S.F. Gray's "Natural Arrangement" and Fries's "Systema" legislated date (1.Jan.1821) could be accessed. This sequence was vital to Donk's incessant search for publication priority.

Rogers's report could be taken as accurate, and Donk accepted the information without response, but during his nomenclatural visits to leading libraries in 1946, Donk had failed to copy names and dates WITHIN Mérat's volume. Although his initial communication with Rogers over this has not survived, Rogers apparently responded with an offer to send the volume to Donk as a loan, "for as long as you need it," for "the Garden" had a second copy. Accordingly, the volume was dispatched to Indonesia.

Some correspondence on this matter resides in the Archive of the New York Botanical Garden. Dr. A.G.L. Adelbert, Acting Keeper of the Herbarium in Bogor wrote Rogers (26.Aug.1952): "After Prof. Donk went on a one year's leave to Holland, I received from our department for photography the photocopies made from your book... I am returning the book to you... I think Prof. Donk would have thanked you very much for your help but since he is not here now, I hope you will accept my thanks instead."

Adelbert's letter crossed Rogers' to Donk in Holland (22.Aug.1952) inquiring about the book, and Rogers later (30.Oct.1952) wrote to Donk: " The volume of Mérat's Flora of 1821 arrived today from Indonesia in good condition. I am glad to have been in a position to lend you this work." But it is the complementary close which merits quotation: "With best wishes for your studies in Holland, Sincerely yours," The letter was copied to Adelbert. The language does not seem indicative of ill feelings.

After two postponements of International Congresses during the War, concrete plans for a Congress in 1950, in Stockholm, were afoot. Donk's 1941 proposals were out-of-date, but incarceration and recuperation for him and Uda took time. The trip to leading botanical libraries, in 1946, helped.

By early 1950, his revision of the 1941 paper appeared (Donk 1949a). "Some years ago, I proposed a number of "nomina generica conservanda and confusa for Basidiomycetes (Fungi)" [Donk 1941] ... intended to be brought before a forthcoming International Botanical Congress. In the course of time it was found necessary to amend in one way or another most of these proposals mainly on account of three factors... [1] were S.F. Gray's names for fungi (1821) validly published?; [2] Kummer (1871) versus Quélet (1872); [3] [the problem] of 'later starting points." The first had seemingly been solved by Rogers (1941). The second was a matter of priority and might require several conservations. The third, according to Donk, was still somewhat open, but he offered his own solution, eventually accepted as part of the Code of Nomenclature.

"The very same reasons that necessitated such a large-scale recasting of several of the previous proposals, also prompted the formulation of new ones. Moreover, a few new proposals are due to the fact that I have been able to consult some publications not accessible to me before, or that I finally came to a decision upon such proposals as I already had in mind for a considerable time. I am much indebted to the authorities of the libraries of the Kew Herbarium, the British Museum, and the Farlow Herbarium for facilities."

Donk's (1949a) proposal of selected generic names for conservation, as reported above, arrived in the hands of Rogers (1949a) too late to be considered in Roger's paper. Instead, Rogers (1950) wrote a supplement to his former paper, this time also acknowledging a paper by Bisby (1949) and yet another by Donk (1949b).

In the same time period prior to the Stockholm Congress, Rogers (1948a, b, 1949b) also raised questions about other articles of the Rules. To these papers, Donk did not respond.

Before the year was over, Donk (1949b) had received the Singer & Smith (1946) paper, which necessitated yet another revision of his proposed amendments to the Rules.

Singer & Smith (1946) selected a lectotype (in this case, species included in the original proposal of the genus name) and grouped their proposals under the author's name affected. For example, under the heading: "II. Ex S.F. Gray. Natural arrangement of British Plants 1: 1821." [249] "7. *Gymnopus* (Pers.) ex Gray, l.c. p 604. [type] *G. purus* (Pers. ex Fr.) Gray. Discussion of lectotype: Since this choice does not invalidate well established names such as *Collybia, Hygrophorus, Tricholoma,* etc. and yet connects the name to a group of species which is rather distinct and which eventually might be recognized as a genus by some workers, it appears to be the logical choice. At the present time

[*Gymnopus*] would be considered a synonym of *Mycena* by those who maintain the genus either in the concept of Kühner or Singer. Status of generic name: Valid; genus at present considered a synonym of Mycena."

But further on, under the heading: "XIV. ex Quélet, Champignons du Jura et des Vosges. 1872-73." (Singer & Smith 1946) 260], "50. *Collybia* (Fr.) Quél. l.c. p. 92. [type] *C. dryophila* (Bull. ex Fr.) Quél. Discussion of lectotype: Many species of *Collybia* do not have pure white spores. All of these, of course, should be excluded from consideration. This eliminates *C. butyracea* and *C. maculata.* We have selected the best known and most widely distributed species that answers perfectly to the generic description. It is important that no species used as the type of recently segregated genera be considered. This eliminates *C. esculenta, C. myosura, C. lacerata, C. longipes, C. radicata,* and *C. velutipes.* Status of generic name: Valid; genus generally accepted by taxonomists."

The proposed lectotype species for types of agaric genera met with repeated disagreement from Donk. Among the more grievous (see above) was selection of *Agaricus purus* as lectotype of *Gymnopus.*

As the Stockholm Congress seemed a reality, Singer & Smith (1948) revisited their 1946 paper. "Since our proposals first appeared ..., we have continued to check and recheck on the correctness of our data and the practical desirability of our proposals. This work has been helped by discussions with Dr. M.A. Donk who spent several months at the Farlow Herbarium working on Basidiomycetes and comparing notes with the senior author on various aspects of nomenclature and systematics."

It is easy to see Donk's influence on this paper. But the emendations deal with points not germane to this present paper. Surely, Singer referred to Donk's 1946 residence at the Farlow, but it is the only reference to "several months."

Ahead of the Stockholm Congress, a public announcement was made of the proposed enlargement of the Special Committee for Fungi from 15 to 23 members (Shear 1949). The newly established committee still included Boedijn: the new members included Martin, Rogers, Donk and Singer. This must have been one of the last official acts by Shear, who withdrew as Chairman of the Special Committee prior to Stockholm. An era had ended, as Shear was replaced by D. P. Rogers, a choice not apt to please Donk.

To show what progress had been made on mycological "starting points" through fifty years of rules, the Stockholm Code (Lanjouw et al. 1952) read as follows (under Art. 13):

"e. Fungi: Uredinales, Ustilaginales, and Gasteromycetes, 31 Dec. 1801 (Persoon. Synopsis Methodica Fungorum).

f. Fungi caeteri. I Jan. 1821 (Fries, Systema Mycologicum vol. 1). Vol. 1 of the Systema is treated as having appeared on 1. Jan. 1821, and the Elenchus Fungorum (1828) is treated as a part of the Systema. Names of Fungi Caeteri published in other works between the dates of the first (vol. 1) and last (vol. 3, part 2 and index) parts of the Systema which are synonyms or homonyms of names of any of the Fungi caeteri included in the Systema do not affect the nomenclatural status of names used by Fries in this work."

The results of the 1950 Stockholm Congress (Lanjouw et al 1952) pared down the number of nomina generica conservanda from the 72 in the 1935 list, to just 12, but left several proposals on the table for the next Congress, scheduled for Paris in 1955. Both the Stockholm and Paris Codes were compiled by an Editorial Committee, of which Lanjouw was the Chair. In the Paris Code (Lanjouw et al. 1956), conserved generic names for fungi numbered 29.

CHAPTER 9. "THE GENERA OF HYMENOMYCETES"

The original title for Donk's pre-War imagined summary is enclosed here in quotes because it was thoroughly revised before it came to fruition. He had soon realized that the subject was not genera, but generic names, as he had pointed out to others suffering the same myopia. He had spent much time polishing his literature search to reduce errors which would exist forever if allowed to appear in print.

Just after the 1950 Stockholm Congress, Donk felt confident enough in his methodology and results to publish (he was, after all, co-editor of Reinwardtia) the first installment of the huge paper re-imagined from his pre-War "Genera of Hymenomycetes." His new series was to cover the subject matter family by family: the first was "The generic names proposed for Hymenomycetes – I. 'Cyphellaceae.'"

Donk (1951) provided more introductory comments than might be considered concise. [199, abstract] "The present paper is the first of a series intended to deal from a nomenclatural point of view with all the generic names proposed for Hymenomycetes. For each name the following items are considered: (i) its etymology and gender, (ii) the original scope of the corresponding genus, and, in case of the name being an isonym, also of the group covered by the basinym [sic]; (iii) the type species, which when not originally designated, is selected; (iv) its basinym, synonyms, homonyms, typonyms and variant spellings, if any, are indicated; (v) its status under the Rules is determined; and (vi) supplementary remarks are given when these are deemed useful."

Seemingly paltry, Donk's originally selected title, "The Genera of Hymenomycetes" had been augmented with the addition of "names." Although this addition signaled a nomenclatural intent, his first task was always taxonomic. [200] "I studied the plants first and only dived into nomenclatural matters afterwards. Each group was given serious taxonomical consideration in order to arrive at a first-hand definition of their genera. No nomenclatural studies should be made without a sound knowledge of the corresponding plants. ... One of the principal objects of this study has been to fix a type species where it was necessary to select one.

"Much of the work was done during a visit to England and the United States where I enjoyed all the facilities of the British Museum (Natural History), the Kew Herbarium, and the Farlow Library." The trip referred to here was in 1946, and served to gather literature data. But another trip took place in 1952 or so [see above on Mérat in Chapter X]: Donk again listed institutions he had visited, several ending in parentheses enclosing the name of a herbarium followed by an exclamation mark. i.e. "the Rijksherbarium at Leiden (Herbarium Persoon!); The Farlow Herbarium at Cambridge, Mass. (Herbarium Patouillard!); Uppsala (Herbarium Fries!)."

Equally, the enclosure of the family name, "Cyphellaceae," within quotes was another signal. Donk's confidence in his treatment of generic names did not extend to family rank, especially if the family name had not been typified or if the name was used in more than one sense. This was to be the case repeatedly over the series. Today, we might have referred to the group as "cyphelloids."

Of particular value were his definitions of nomenclatural terms ("devalidated names," "priorable and impriorable names," and "nomen anamorphosis") and enumeration and definition of "-onyms" ("protonym," "typonym," "synonym," "monadelphous homonym," and "typonymous homonym"). Of the "-onyms," only "basinym" and "isonym" went undefined.

Under the first genus name, *Aleurocystis*, Donk uncovered two persistent problems: 1) the full citation was "Aleurocystis 'McGinty': Lloyd, Mycol. Writ. 6: 1088. 1921."; and 2) a prior paper by GW Martin (1942) had concluded that several names representing both teleomorphic and anamorphic states were synonymous. The first issue led to a lengthy diatribe on the status of McGinty names, perhaps the most thorough available. The second: "I can not yet follow Martin in all these conclusions (which were not all of them reached by an actual study of specimens)....

Under *Porothelium*, the protracted discussion of the obscure publications by Fries is an indication of the detailed data gathered for every genus name.

One might wonder in what physical form were such data stored for each genus name." Reference to a paper by William B. Cooke (1952) in Donk's ("1951") paper signals caution over the dates of both.

Donk was not without self-effacement. Under "*Cyphellopsis* Donk (1931)": "Typification. The first species is regarded as the type by the author of the name, who forgot to mention this fact by an oversight."

Donk (1952a) showed his abiding interest in local heterobasidial Hymenomycetes, summarizing *Auricularia, Hirneola,* and *Laschia*. The first of the genera had been the subject of an exchange with G. W. Martin some years previous (see above). Although chastising others for equivocation, Donk now professed exactly that. Differences in the configuration of the hymenophore were subtle; "This has induced me to follow Bresadola and combine Laschia and Hirneola for the present, though I may retain sectional status for Laschia, or even restore it to generic rank, in the future."

But the gauntlet was taken up this time with D. P. Rogers (1949a: 448-449) as the target. In Rogers' paper, he had criticized Donk's (1941) proposals for conservation but did not have Donk's (1949) paper in hand when writing his (Rogers, 1949a) proposals.

In some of his strongest language, Donk wrote: "Rogers … was against [my] proposal, first because he considered *Hirneola* Fr. 1848 a mere application of *Hirneola* Fr. 1825, and secondly – mind, this was in a nomenclatural discussion! – because he considered *Hirneola* "taxonomically superfluous." It may be so to him, but I hope sufficiently to have explained my reasons why I cannot agree and why there are mycologists who prefer the continued use of these traditional genera and names. I trust that other mycologists sharing Rogers' taxonomical view will be more broad minded and will not hinder their colleagues who adhere to a different taxonomical view and at the same time, detest nomenclatural disturbances of the kind indicated. They are asked to extend their help in maintaining the name *Hirneola* for the genus currently so called." As a footnote: "Rogers had to withdraw his opinion that, legally, misapplications cannot be conserved, although he is still opposed to this kind of procedure. Even if *Hirneola* 1848 were a misapplication of *Hirneola* 1825, there is nothing in the Rules to oppose its conservation; several misapplications have already been conserved."

In the wake of the Stockholm Congress, Rogers, as Secretary to the Special Committee for Fungi, felt constrained to put numerous proposals for conservation to a mail ballot by the Committee. He reported (Rogers 1953) that the proposal to conserve *Hirneola* vs. *Hirneola* and *Laschia* (Donk's proposal) was rejected. Donk, predictably, was not pleased.

Still, 1952 was not over yet. Donk (1952b, c) twice found fault with a paper by Rogers (1944) on nomenclatural grounds, and to the taxonomy in another (Ragab 1951).

Three jobs, Professor, Herbarium Keeper, and journal editor made for a busy schedule, but helped establish his name as a rising professional. Journal publications lagged in 1953, but his dissatisfaction with Rogers as Secretary of the Special Committee was unabated. As referenced above, Rogers (1949a) had published a long list of proposed generic names for conservation without including Donk's (1949a) major paper (and therefore proposals; they arrived in Rogers' hands too late to be considered), and then did not vote on them during the Stockholm sessions. In mimeographed form to the other members of the Special Committee, Donk wrote: "The Secretary of the Special Committee for Fungi has pronounced judgement on his own account with regards to my proposal to conserve *Calocera* (Fr.) Fr. against *Corynoides* S.F. Gray by not admitting it to a vote. As I believe the proposal to be quite in order and cannot subscribe to his pretext for shelving it, I hold that it still stands." Appended was a second proposal, this one to conserve *Lachnocladium* Lév. and *Ramaria* (Fr.) Bonord. Their short-term fate has not survived, but in a recent list of conserved generic names, *Calocera* does not appear, *Lanchocladium* is conserved and *Ramaria* is conserved, but not in the form proposed by Donk (ICBN 2022).

1953, if taken from Donk's bibliography, was not a productive year, but it surely was a time for compilation and writing (in the midst of lecturing, administering and editing). The nex year, 1954,was to harvest those activities. One paper, published in a journal new to Donk (Bothalia, from South Africa), recouped basidial terminology, this time taking up stages of sterigmatal production (Donk 1954b). As usual, G. W. Martin was the protagonist. The paper was extracted from a larger manuscript whose fate has not survived.

In contrast, four papers (Donk 1954c, d, e, f) appeared in Reinhardtia. The first dealt with the fern genus *Lemmaphyllum*. Seemingly outside of Donk's center of interest (but see his obituary of Posthumus, above, and Singer 1973), the theme was familiar: synonymy of generic names and proposals of new combinations. Likewise, the temptation to castigate Rogers was too attractive to deny, and Donk (1954d) took up (again) the genus *Pellicularia*, the type specimen of which he considered a mixtum compositum. Both of these papers bore a number indicating that they were intended to be the firsts of series. A third short paper (Donk 1954e) resuscitated Staude's ghost to take issue with Rogers (1950) once more.

The two major papers of the year, however, continued the series on generic names of Hymenomycetes (Donk 1954e, f). The second of the series took up a fungal group not even pretending to be at family rank, Hymenolichens. [435] "Being lichens their starting-point book is Linnaeus's 'Species Plantarum,' published in 1753, in contrast to all other Hymenomycetes, of which the starting-point date is January 1, 1821." A total of 11 genus names were discussed, but attention was drawn to the genus name *Hypchnus* Fr., which would become the center of renewed controversy with D. P. Rogers.

By 1954, Corner's (1950) monograph of clavarioid fungi was available, as well as smaller publications accepting multiple genera. Maxwell S. Doty (1948) had published a list of proposals specifically dealing with clavarioids and had published a deeply divided review of Corner's book (Doty 1954). Many of the unfamiliar genus names, however, were reincarnations of old names, so Donk's (1954f) summary was sizeable. By 1954, Donk had these major works, one taxonomic (Corner 1950; see also Doty 1954), the others (Doty 1948, 1950) nomenclatural. Two instances of the schism were Donk's (1954f) discussion of *Eriocladus* and *Ramaria*. Especially, Donk's 12-page discussion under the latter name is quintessential Donk – impenetrable - only slightly less so than that by Doty (1950; written apparently without Corner's monograph in hand).

Also in 1954, Donk was elected as a Corresponding Member of the Royal Dutch Academy of Sciences, token of a growing reputation.

In the mid-1950s, Indonesia was deep in the rule of Sukarno. The nationalists, communists, and Islamists were at odds, and the only people who were a common enemy were the Dutch colonialists. For them, life style had degenerated and more and more incompetent Indonesians were being placed in former Dutch offices. From the Buitenzorg Botanical Garden, van Steenis had returned to Holland to continue organization of Flora Malesiana. Donk's position as herbarium keeper probably remained peaceful, but his position at the University in Bandung, and travel to and from, were surely becoming more difficult. Also, Sukarno's personal history included his good relations with the Japanese. In fact, both he and Suharto, his eventual successor, had been elevated by the Japanese, which must have abraded Donk.

In general, biographical sketches of van C. G. G. J. van Steenis leave the years of Japanese occupation a blank. An example is Wikipedia (van Steenis 2022) in which "From 1936 to 1942, he was co-editor of De Tropische Natur... From 1946 to 1949 he was active in the Netherlands, where he was engaged in the organization of Flora Melesiana..." Another fellow-botanist (Geesink 1990) put it this way: "This impressive encyclopedia [the Flora] was brought together

by Mrs. van Steenis in the difficult years during Japanese occupation and the years immediately after World War II." Whether van Steenis, Donk's superior in Buitenzorg, was incarcerated by the Japanese is unknown to me. One way or another, he had migrated back to The Netherlands, a movement many other Dutch expatriots were joining. Although he was in The Netherlands very shortly after the War, he was still listed as co-editor for Reinwardtia in Java.

The fourth installment of the "generic names" series, this one dealing with the Boletaceae, appeared, as usual, in Reinwardtia (Donk 1955). Each installment uncovered the congregation of prior authors associated with the morphological group discussed. But first, the fungal group circumscription had to be massaged by Donk, himself, so the user would not be misled. In this case, for example, "pseudolammelate" [sic] forms were omitted, but would appear later with generic names for Agaricaceae. Likewise, while Corner and Doty had been featured players in the "Clavariaceae," Quélet, Murrill and Singer occupied leading roles in the Boletaceae (without quotes – the family name was valid).

Versipellis provided a trifecta for Donk. In the same discussion, he explored his version of Quélet's thought process (Donk 1955: 308), to dismiss Singer's conclusion [310]: "Singer's 'absolutely legitimate typification' is in reality one easy to dispose of…", and, as well, to criticize DP Rogers' actions [309] as Secretary to the Special Committee on Donk's previous proposal.

Donk's contribution on Boletaceae was the only publication listed for 1955 by Maas Geesteranus (1973), but there were circumstances far more complicated afoot. Ordinarily, the author's address on a journal paper escapes notice. The subject matter is more important than the whereabouts of the worker. But for 1956, there were five Donk papers. Two were in Reinwardtia (Donk 1956a, b); address, "Formerly Keeper of the Herbarium Bogoriense;" three and four (Donk 1956c, d), in Taxon, address, "The Hague;" and the fifth, in Fungus (Donk 1965e), address, "Rijksherbarium, Leiden." Rien and Uda had departed Java for The Netherlands. A home of 30 years, reworked after the War, privation and malnutrition, change of government, demise of colonialism and its rewards were all surrendered, but the couple joined the file of countrymen seeking peace and, hopefully, security. Arrangements for their well-being may well have been spotty.

Surely the most important professional items for Donk were his huge files of nomenclatural information. He must have had significant misgivings as boxes of papers made their way away from his office, given the fate of his first efforts some years before. Whether the files were typed or handwritten isn't known, but they were not easily replaceable, as though digitized and on a "flash drive."

Even less than parenthetical, in 1956, Petersen graduated from Colgate University with a degree in Botany, and enrolled for his sole semester at Cornell University.

In early 1957, when Petersen came to Columbia University, Lindsay Olive was at his apogee working on the genetics of *Sordaria*. In the four-year period of obtaining two advanced degrees, Petersen concentrated on Fungi Imperfecti — first as soil fungi, then as aquatic Hyphomycetes. As his experience grew, however, he came to think that the real taxonomic "action" seemed to be in the Basidiomycetes, particularly Aphyllophorales (at that time, Alex Smith and his students seemed to have a "corner on the market" of the agarics). In the summer of 1960, attention was drawn to the "coral" and "club" fungi, the "Clavariacae" (to apply Donk's favorite quotation marks). Biblical for North American taxa was Coker's (1923) treatise, in which virtually all such fungi were included in the single genus, *Clavaria*. When Corner's (1950) monograph was discovered, an entirely new world opened.

The tulasnelloid fungi had been a cause célébre for G.W. Martin, D.P. Rogers and Donk for over a decade. Especially the pyriform swellings between the basidium proper and basidospores had been bestowed with at least five ontogenetic roles and several terms. To this group of workers was added Patric Henry Brabazon Talbot (1954) who closely followed Donk terminology. In addition, "germination by repetition" was added as a possible defining phenomenon for a larger group of primitive Basidiomycetes, and therefore a candidate for discussion.

As usual for Donk (1956d), his detailed history of the genus name Hydnum was lengthy. In it, he mentioned, for the first time, a paper by William Bridge Cooke (1953), a work which must have been developed over a long time period and must have (or, at least, should have) taken several of Donk's earlier installments into account, perhaps except those in the Bulletin of the Botanical Garden in Buitenzorg. Cooke listed *Hydnum* four times: the pre-starting point origin [1] "(*Hydnum* L. Sp. Pl. 2: 1178, 1756 with lectotype, H. repandum): [2] *Hydnum* L. ex Fr. Syst. Mycol. 1: 397. 1821, Type = H. imbricatum: [3] Hydnum L. ex Banker Torr. Bot. Club Mem. 12: 104. 1906, type = *H. repandum*: [4] *Hydnum* Dill. ex S.F. Gray. Nat. Arr. Brit. Pl. 1: 650. 1821. Type = *H. imbricatum*." But no choice was made among these. Conversely, Donk clearly supported typification by *H. repandum*. Typification with *H. imbricatum* would have forced "*Hydnum*" to replace the presently understood *Hydnellum*, with *H. repandum* the type of *Dentinum*. This bone stuck in the craw of taxonomists for another twenty years before finally *Hydnum* was conserved with *H. repandum* as type.

Cooke's (1953) paper was skeletal: Genus name, originating literature abbreviated, type species (no indication of how it was arrived at); alternate usage of the genus name and data if required (as above).

Donk's (1965e) paper on resupinate Hymenomycetes, although dated December, 1956, was probably not available until the following year. For Donk, it was a way to consider some Hymenomycetes not easily taken up under any family unit, even in quotes. The "garbage" genus *Corticium* was a figurative nest of snakes, making it difficult to sort out. Typification was relatively easy, but the "paring off of excrescences" into other genus names presented problems.

Any pre-migration agreements on Donk's future in The Netherlands remain shrouded, but in retrospect two figures loom important. First, CGGJ van Steenis had returned to Europe some years before Donk's migration. His position in Leiden as head of the Flora Malesiana project made him a powerful participant in herbarium functions and dispenser of finances for projects. Herman Johannes Lam (1892-1977; Lam 2022), with a degree from Utrecht and a long tenure at the Buitenzorg Botanical Garden, mirrored somewhat Donk's career. By the time of Donk's arrival in Holland, Lam was Director of the Rijksherbarium in Leiden, and therefore pivotal if Donk expected to continue mycological research. In the struggle between experimental and systematic taxonomy, Lam was securely in the latter camp, as was Donk: "eye-to-eye" agreements of this kind did not hurt Donk's chances. Although mycology already had a "presence" in the Rijksherbarium, only one full-time researcher was in place.

In January, 1911, Rudolf ("Rudi") Arnold Maas Geesternus (1911-2003; van Brummelen & Bas 1976; Bas 1992; Anonymous 2003), was born in The Hague. As though a repetitive plot, within his first year his family emigrated to The Dutch East Indies, and stayed until 1929 (Maas Geesteranus at age 18). Surely unknown to either party, these were the years of van Overeem in mycology in Java. Once in Europe, Rudi passed the necessary examinations to enroll in secondary school in The Hague, after which he continued his education at the University of Leiden in biology. His series of specialized interests in biology has been lost, but he held a position as "volunteer assistant" at the Rijksherbarium, an appointment that was "the stepping stone to a scientific career" (Brummelen & Bas 1970). In mid-1939, at 28, he was elevated to Assistant (and the only mycologist).

The Netherlands had intended to remain neutral as war swept western Europe, but within days of the Dutch proclamation of neutrality, German forces nevertheless invaded and overran the small country. Maas Geesteranus's plight over the War years has been lost, but according to general reporting

(Netherlands WW II 2022; Netherlands Wiki 2022), life was not pleasant. All males between 18 and 45 were drafted into forced labor in German factories: Maas Geesteranus was 29 in 1940. Cas Bas (pers. comm.) related that food was so scarce that people consumed tulip bulbs even though it was common knowledge that doing so would cause significant gastric disorder. Information on Maas Geesteranus War-time life has not been found. Whether he went into hiding (like Frans Stalfeu) is not known.

Emblematic of his special interests, Maas Geesteranus was appointed Curator of the mycological herbarium of the Netherlands Mycological Society in 1942, perhaps odd timing.

Apparently, no explicit thought had been given to mycology as a subdivision of the Rijksherbarium, which was staffed overwhelmingly by plant taxonomists. A colleague-friend suggested that Maas Geesteranus take a look at the lichens of northern Europe, and he undertook such a study. Upon liberation in 1945, large portions of The Netherlands were in ruins, many thousands of people had been displaced, and surely no funds were available for an expansion of the National Herbarium (which apparently survived general physical destruction). Perhaps the only rewards that could be offered were a new title and promotion, and in 1946, Maas Geesteranus was appointed Curator of the mycological and lichenological collections at the Rijksherbarium. His studies of lichens served as his dissertation, and he received his PhD in 1947. Perhaps a bit out of character, Maas Geesteranus subsequently spent several months on a "one-man expedition to Kenya; he collected lichens and phanerogams in particular" (Brummelen & Bas 1976). By 1950, his research had migrated from lichens to fungi proper and when Donk arrived in 1956, Maas Geesteranus was the one and only full-time member of the mycology department.

The personal relationship between Maas Geesteranus and Donk was complicated, as might have been predicted. Donk entered the herbarium staff as Head of the Mycology Department, at least officially higher than Maas Geesteranus, already on staff for 14 years. Only recently, Maas Geesteranus's research had become centered in the "hydnaceous" fungi of The Netherlands, but over these years, his publications had been more or less parochial, almost exclusively in Dutch and in a single journal, Fungus, for which he served as Editor for a few years. Donk, on the other hand, had already reached international status, switching to English very early, was co-editor of Reinwardtia, and had shown a high level of scholarship in his publications. And not to be overlooked, a common experience in Java was shared with Donk, van Steenis and Lam. But inevitably, the two mycologists became yoked for an unpredictable tenure, soon to be joined by a third mycologist, young Cornelius ("Kees") Bas (1928-2013).

In the United States, a seemingly unrelated series of events transpired. Donald P. Rogers, mycologist at the New York Botanical Garden, Secretary of the Special Committee for Fungi and Lichens, and the Managing Editor of Mycologia, resigned to accept a position as Professor at the University of Illinois. On the face of it, this would have been interesting, since the NYBG position was widely considered to be pivotal in the mycological community. Two ancillary changes, though, in hindsight make his resignation problematic. First, Mycologia, the official journal of the Mycological Society, was, in fact, a publication of the Botanical Garden, where the Managing Editorship resided, so Rogers's resignation left a vacuum. But in mid-1957, Rogers was elected to be Editor-in-Chief of Mycologia, and the editorship moved with him to Illinois. As time passed, submitting authors began recognizing that no progress toward publication was forthcoming, and the journal began to lag behind its usual punctual dates of appearance. In fact, the new Managing Editor, Clark T. Rogerson (1918-2001), the new mycologist at NYBG, had to make a trip to Illinois to recoup the delinquent materials (RHP pers. obs.). Second, Rogers was also President of the Mycological Society of America (MSA) for a term ending at the annual meeting in 1957. Normally, the President would deliver a presidential address as his/her last act in that position. There is no account of this event for Rogers (Beneke 1957; Inoculum Archive 2022). His Presidential Address was published the following year (Rogers 1958): its title "The philosophy of taxonomy." The text was unusual in that it was not autobiographical or an explication of some mycological work fascinating the soon-to- be-ex-President, but a soliloquy purporting to investigate the underlying philosophical underpinnings of taxonomy (not especially mycological). Its language was not the jargon of the science, although the basidium was used to make some points. [328] "More than one theory of reproduction in the simpler organisms has gone on the rocks because its author equated heterothallism to self-sterility, or to sexual differentiation without the sexes. More than one hypothesis of basidial morphology is rendered vulnerable because of its author's inability to distinguish a sterigma from an epibasidium." Its final words: "I am opposed to the existence of a pecking-order; but if we must have one, I suggest that it be determined by the complexity of the phenomena under investigation. Would anyone like to write a structural formula for a basidium?" might be taken as a swipe at the Donkian insistence on correctness of basidial terminology. Also unusual, there was no presidential portrait to accompany the address.

Petersen arrived at Columbia University, in New York City, in January, 1957. By Winter of 1958, he had been introduced to the NYBG, and by that summer,

had been graced with extensive conversations with Clark Rogerson, and so was on the scene for the saga cited above. In fact, Rogerson was not only de facto Editor of Mycologia, but also its Managing Editor and so had to report to the Society on the journal's state of publication and finances.

One might have expected an interruption in reports from Donk as he (and his new colleagues) adjusted to their new situation, but the nature of his major research project had been in place for some time (starting in 1931!) and the series of installments required only transferring data from raw materials into text and updating to make them as exhaustive and current as possible. But, as Donk had apologized long before, his most odious task was careful proofreading of the galley proofs returned by the printer. There is evidence that Donk's manuscripts were hand-written, including punctuation and special characters — including Greek — certain to present problems for the typesetter, and proofreading was the bane of his existence (MAD to RHP, pers. comm.; the same problem for Elias Magnus Fries!, cf. Petersen & Knudsen 2015).

The next in the series on generic names of Hymenomcyetes (Donk 1957a, b, c) dealt with the "Thelephoraceae." It took almost a full page just to define the group, mostly by discussing what was excluded. Because this group had been at the heart of Rogers's research for the previous decade, references to his papers were numerous but not at length. A particular genus name, *Hypochnus*, required five pages of discussion, and, under *Thelephora*, the problem of valid publication of a name on an exsiccati label was addressed.

A persistent "thorn in Donk's flesh" was later starting points. Not only dates on old publications were important, but relative dates were necessary: 1821, for instance, was not enough. What was the chronology of Fries, S.F. Gray, Mérat, Nocca & Balbis, and Hooker, all published in 1821? For each new discovery of early 1821 literature, authors' name changes were required and nomenclatural stability postponed yet again (Singer 1956). All this was taken up by Donk (1957d). But if multiple starting points were cumbersome, Singer's (1960) idea of a single starting point, but with Persoon, 1801, instead of Fries, would have been even less palatible.

Donk (1957e) opened the fourth installment on resupinate fungi this way: "There is a pronounced tendency among mycologists working on the resupinate Hymenomycetes to dump an enormous number of species into a few artificial genera like *Corticium* Fr., *Peniophora* Cooke, *Sebacina* Tul. The results are more often than not monstrous, non-surveyable agglomerates, which serve no other purpose than to confuse even the specialized mycologist." His solution, citation of the "garbage genus" name followed by "*", was not covered by the

International Code but took into account the traditional and "modern" use of generic names (without "*"). The solution did not find general approval, perhaps due to the limited dissemination of Fungus, the journal. Unfortunately, simultaneously, a thoughtful discussion of basidiome complexity in resupinates was also consigned to obscurity.

Fig 25. John Eriksson, Gothenburg, Sweden. Photo: Leif Ryvarden.

Although dated in 1957, Donk's "resupinate paper" was surely in the hands of John Eriksson (1921-1995; 1958; Fig. 25) in Sweden, sometime before. Eriksson was a student in the midst of a study of Hymenomycetes of Muddus National Park in northern Sweden. In his preface he wrote: "Dr. M.A. Donk has generously sent me manuscripts with very interesting notes on the taxonomy of Corticiaceae and the nomenclature of Polyporaceae." Eriksson wrote that he was about to "leave science for a more trivial and consequently more profitable occupation." This referred to procurement of a teaching certificate so that Eriksson could earn a substantially higher wage as a public school teacher than as a student (Nils Hallenberg, pers. comm.). Neither Eriksson nor Donk could have predicted the quixotic relationship that was to develop. In a few years, when Eriksson had returned to pursuit of a PhD, Donk would act as examiner at Eriksson's PhD ceremony (Fig. 26).

In a return to basidial terminology, Donk (1958a) wrote: "Neuhoff's [1924] views were enthusiastically defended by Rogers (1932), then a pupil of Dr. G.W. Martin, and they have been upheld by Martin himself (1938) and other mycologists of his school, which concerns itself particularly with the Heterobasidiae." Talbot was acknowledged with Linder in support of Donk's terminology, and Talbot was thanked for "corrections and suggestions." Not considered,

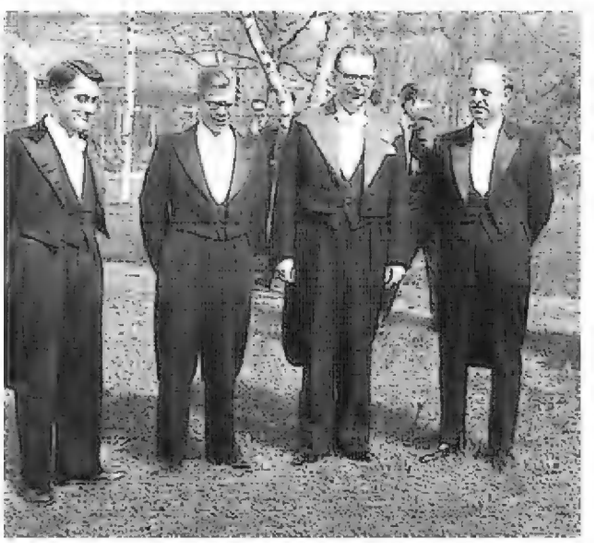

Fig 26. PhD examination ceremony for John Eriksson, ceremonial garb: left to right: Lennart Holm, John Eriksson, M.A. Donk, Olaf Rune.

however, were pertinent papers by Olive (1957a, b), who generously cited papers by Rogers but not Donk.

It would be easy to conjecture that the next International Botanical Congress, scheduled for Montreal, Canada, in 1959, could suppress the research output for Donk in the preceding year. After all, Lanjouw (1959) had gathered over 300 proposals for consideration during the upcoming nomenclature sessions. The truth was that the output of 1958 was assembled in the previous months.

Blumea was the "house journal" of the National Herbarium, without a wide subscription or impact, and with exclusively plant content, but Donk (1958a) chose it for yet another revisit of basidial terminology. Martin and Rogers were again prominent, but Talbot's (1954) paper was again cited and Bandoni (1957), who failed to cite Donk's previous discussion of "germination by repetition," was a newcomer.

In a short note, Donk (1958b) dismissed Pouzar's (1958) argument that *H. repandum* could not be accepted as the type of *Hydnum*, but the controversy continued nonetheless.

Given the wide breadth of Donk's opinions already expressed in his writings, two pervasive categories of controversy could easily be identified. More easily, the acceptance and typification of individual generic names touched individual workers' usage and decisions. His latest installments of the "Generic Names of Hymenomycetes" series (Donk 1958c, d, e, f) were no exceptions. The first, in three parts, covered several groups long considered "jelly fungi." In fact, even the inclusion of these family units as Hymenomycetes might have met with doubts.

Second, some of Donk's judgements stressed articles of the International Code of Nomenclature, and when considered necessary, Donk proposed changes in the Code itself. The effect of starting dates, especially for "fungi caeteri," required some remediation, as did the details for valid publication. Such innovations usually met with opposition, not only from other mycologists, but from plant nomenclaturalists when "their toes were stepped on."

From a "modern" taxonomic viewpoint, inclusion of Cantharellus and Merulius in one installment (Donk 1958f) might seem anachronistic, but it was the arrangement and contour of the hymenophore which governed the forms covered. Even now, though, the arrangement of the gill folds in several species of *Cantharellus*, especially those gills juxtaposed to the stipe are termed as "merulioid." One genus name, *Gomphus*, was overlooked (it appeared in installment 13 later).

William Bridge Cooke (1908-1994), an American mycological taxonomist most familiar with the higher fungi of the Pacific Northwest, was already the

author of a paper on *Cytidia* (Cooke 1952), which caught the eye of Donk. Now (Cooke 1957) a new paper precipitated an answer from Donk. In his introductory remarks, Cooke (1957: 682) wrote: "The use of the name Cyphellaceae has never been completely validated. ...Donk used the group as a subfamily of the Aphyllophoraceae in 1931.... However, in his treatment of the genera of the 'Cyphellaceae,' 1951, he indicated that the family was treated as an aggregate of genera rather than a taxonomic unit. The present treatment, it is felt, includes a more homogeneous group of genera than earlier treatments discussed by Donk in his paper on the genera." Donk would have winced early on; he had not intended to treat genera, he had treated names of genera. His paper on "Cyphellaceae" had been nomenclatural, not taxonomic.

Donk's (1959) answer was voluminous and was intended to be the first in a series. [25] "A recent development in connection with the study of the 'Cyphellaceae' is a paper published by WB Cooke (1957) entitled, 'The Porotheleaceae: *Porotheleum*.' ... Cooke seems to consider all these genera sufficiently related to be combined into a natural family. I confess from the start that I do not at all concur with this view and that I consider most of these genera not only completely unrelated but also highly artificial. ...In the present series of notes I hope to develop gradually the thesis that the 'Cyphellaceae' are a heterogeneous assemblage of more or less 'reduced' taxa [26] pertaining to different families from various quarters of the Hymenomycetes: Corticiaceae, several families of Agaricaceae, Schizophyllaceae (which should probably not be included in the Agaricales at all!) and perhaps still others."

The opening remarks were not enough. [37] "Recently W.B. Cooke (1957) adopted the group presumably in about the same sense as it has been delimited by Pilát. Yet a careful study of many important species has convinced me that the 'Cyphellaceae' are a very heterogeneous assemblage that has not the slightest right to exist. The diverse elements have been held together by superficial likeness but evidently are of various relationships. ... I had reached similar conclusions ... when I met Dr. R. Singer in 1946 (cf. Singer, 1951: 312) ..." There, Singer had accepted Donk's genus *Flagelloscypha*, and had scattered several other cyphellaceous genera over groups of Agaricales he thought related to them.

Donk went on to exclude numerous generic names he thought not even remotely cyphellaceous, including such interesting genera as *Campanella, Craterellus, Favolaschia, Fistulina, Marasmius, Plicatura,* and *Trogia.*

Yet another facet of Donk's filtration of subject matter to suit his intent can be seen in his discussion of [65] "The Aleurodiscoid species." "It is not

my intention to discuss *Aleurodiscus* here from another point of view... To limit the subject still more, attention will be paid only to the type species of *Aleruodiscus* and to those species that are not yet unanimously admitted to the genus." "Aleurodiscoid species" was covered as equal to actual genera, such as *Cytidia, Auriculariopsis, Stromatoscypha, Cellypha, Pellidiscus* (gen.nov.), and others. Altogether, the paper was a tour de force of Donk data and conclusions plus the withering dismissal of opinions of some other workers.

Of more perpetual import, 1959 also saw the birth of a new (almost) mycological journal, Persoonia. The machinations leading to it must have taken some time and diplomacy. As the inside cover put it: "Persoonia came into being by the generous co-operation with the 'Nederlandse Mycologische Verening' (Dutch Mycological Society), which suspended the publication of its periodical 'Fungus.' [patronized by both Maas Geesteranus and Donk] ... In this way Persoonia is a continuation of that journal." An intercession by Maas Geetseranus must be suspected.

The editors of the new journal were listed: H.J. Lam, M.A. Donk, R.A. Maas Geesteranus. Lam, the Rijksherbariun Director, may have been ex officio, but his relationship with higher administrators, and especially sources of funding, were surely essential. Persoonia would be a sister periodical to Blumea which could return to its plant content. Inside cover again: "Publication in Persoonia is ordinarily restricted to Members of the Staff of the Rijksherbarium and to authors who work in close co-operation with that institute. It is devoted to mycology, more in particular to the taxonomy of fungi and lichens."

The staff of the Mycological Department was listed, starting with C. Bas, only recently appointed to a tenured position. In addition to Maas Geesteranus, Donk without title was listed by his private address, and J[oop] van Brummelen was listed as an associate, but would later become a full-fledged staff member.

For Donk, the International Botanical Congress in Montreal, Canada, 1959, presented a stage on which to measure his ideas before the larger botanical audience, especially North Americans (Lanjouw 1959, 1960). While it surely was not his first such opportunity, it would bring him face to face with some with whom he had traded papers and barbs.

To the best of my recognition of names, the following mycologists were registered at the nomenclature sessions of the Montreal Congress (harvested from the list of registered attendees in the nomenclature report by Lanjouw [1960]): Arnold RM (Canada); Austwick PKC (UK); Benjamin C (USA); Beverwijk AL (Netherlands); Bodman MC (USA); Donk MA (Netherlands); Doty M (USA); Groves JW (Canada); Hale ME (USA); Holm L (Sweden);

Hughes SJ (Canada); Imai S (Japan); Lange M (Denmark); LeGal M (France); Macrae R (Canada); Martin GW (USA); Rogers DP (USA); Rogerson CT (USA); Shoemaker RA (Canada); Singer R (Argentina); Sprague R (USA); Stevenson JA (USA); Weresub L (Canada). (Total = 23). With the exemption of William Bridge Cooke (not in attndance), several of Donk's contemporary protagonists can be recognized.

Donk's first recorded utterance came in the second session, held on a mid-August Sabbath. In attempting to circumscribe the organisms governed by the Rules (Principle I), [34] Donk pointed out that Myxomycetes, regarded as either plants or animals, should be governed by the group in which they were placed by their authors. This was already a problem for the "cellular slime molds."

The first tangle for mycologists came the next day. Donald Rogers raised the subject of Fries's undefined nomenclatural rank, "Tribus" (see above for some history), which had been judged as validly published by the Stockholm Congress but had been suppressed later. He asked that this "rank" be restored to its valid status. Donk commented that he thought Rogers' request was superfluous because mycologists did not want Fries's "tribus" in the first place; Singer agreed. Some lines were drawn. A decision was postponed, to be reconsidered later in the context of a particular thorny plant problem. The first round was a draw.

That afternoon, the subject turned to typification, especially the circumstances under which neotypes could (or should) be declared. Donk suggested caution: "...neotypes might become a nuisance if somebody started choosing neotypes for inadequately described taxa."

By Wednesday afternoon (August 19), after four days of detailed nomenclatural parliamentarianism, the attendees could have been excused if they professed exhaustion, but it finally was time for reports of the Special Committees for various plant groups, including fungi. Secretary Rogers outlined seven new motions to be considered, from acceptance of pre-starting point names under certain conditions; change in starting date for "Fungi Imperfecti" (exempting "Hyphomycetes"), proposed by Stanley Hughes, an expert on the fungal group, and in attendance; to changes in the treatment of teleomorphic and anamorphic states (but in 1959 language). No motions had been made during the regular session that considered these topics.

Donk had heard enough. [102-104] As reported in Lanjouw's (1960) report: "Dr. Donk delivered the following address:" Donk: "Mr. Chairman: The meetings of the Committee for Fungi of this Congress have been quite remarkable. First, they were ill-prepared. I can see no reason why, for instance,

when there are pre-prepared [proposals] to be discussed, they should be handed to us in a document dated August 16. … Even the most trivial of the proposals of these General Meetings have been distributed in advance, and I can't think of a reason why the special mycological problems do not need such a procedure." He continued that "the Secretary" had also misunderstood his (Donk) proposal and had reported a committee vote based on his (Rogers) misunderstanding.

Rogers sat in the audience, listening to his own verbal evisceration. Next to him was a friend of long-standing, Geneva Sayre, the noted bryologist and bibliographer. As Donk continued his criticisms, Rogers muttered to Sayre, "I can't believe this is happening to me" (Sayre to Donald Pfister to RHP, pers. com.).

Donk was not finished. "One of the proposals submitted to you is to alter the starting-point of a big group of fungi, namely of all the imperfect fungi except the Hyphomycetes. The motion was moved during the discussions and nobody not present at the Congress, as well as many who are, had been informed that it would be subject to a decision. If we accept it now it will be sprung upon the rest of the world as a complete surprise. No specialist in the group itself was present and there is no report or other document, or previously published paper, in which the question has been given due consideration." When he stopped, the impasse was recognized by Lanjouw, who outlined a tortuous process by which consideration of the new proposals would go to the General Committee, thence to the Editorial Committee, thence to the next Congress. With some relief, that procedure was approved.

Some idea of the Editorial Committee's duties may be seen in Smith's (1961) report from the Montreal Congress. Every action was couched with how little it would change the Code. What was not conveyed was the power of the Editorial Committee in editing the Code.

From Lanjouw's (1960) comprehensive report, the Editorial Committee was charged as follows [29]: "1) To change, if necessary, the wording of an article, and to avoid duplication; 2) to add or remove examples; 3) to place articles and chapters of the Rules in the most convenient places: 4) to place all or part of the recommendations as notes under the proper articles if necessary; and 5) and, in general, to make any editorial modification not affecting the meaning of the provisions concerned." Surely, this roster of charges gave enough license that, even in the hands of a scrupulous group, in some cases, articles, and surely recommendations, took on new possibilities for (mis-)interpretation, only to be taken up by the next scheduled nomenclature sessions. Mycology, as might be expected, was chronically under-represented.

Only one item remained of importance to mycologists: the Nominating Committee announced their proposed slates for membership in various committees going forward, including the Committee for Fungi. [108] The slate: M. LeGal (France), Chairman; M. Donk (Netherlands), Secretary; GH Cunningham (New Zealand); FC Deighton (Great Britain); H. Desabbayes (France); JW Groves (Canada); ME Hale (USA); S. Imai (Japan); J Mattick (Germany); M. Moser (Austria); JA Nannfeldt (Sweden); A. Pilát (Czechoslovakia); R Satnesson (Sweden); R Singer (Argentina); JA Stevenson (USA); PHB Talbot (S. Africa); BP Vassikov (USSR). Numbering 17, the Committee might have appeared unwieldy, but it was quite new: Martin and Rogers were gone, and Donk was Secretary. The nomination of Madame Le Gal was was quite unusual and was met with some doubt since she had never followed the rules consistently (Richard Korf to Donald Pfister to RHP, pers. com.).

Donk's diatribe may have succeeded in moving Rogers' proposals forward — albeit into an uncertain fate —but it surely left a bitter aftertaste for his audience. Mycologists were embarrassed, plant delegates may have been amused, but their opinion of mycological nomenclature had not been enhanced. There was now a "new" Special Committee and an "old" Committee. Rogers had been humiliated. Donk's personal image was tyrannical and he was the talk of the Congress for the rest of the week. A battle may have been won, but at what cost?

A few months later, a report on Lanjouw's protocol for Montreal mycological nomenclature appeared in Taxon (Stafleu 1960). It was unusual, for it included three separate documents: 1) a letter to the General Committee from Stafleu; 2) a report by Donk reiterating his opinions delivered at Montreal; and 3) a report by Rogers, as Secretary of the Special Committee leading up to Montreal. Nothing was gained by this aggregate, and the proposals passed on to the "new" Committee.

The Montreal Congress was the first for Petersen, who attended as a new-born mycologist, totally ignorant of the personages with whom he could mingle, or the drama which was taking place. If the Congress was a seven-layer cake, only a small crumb was consumed.

If an International Botanical Congress can be exhilarating, it was over and it was time to return to "the real world."

In Leiden, van Steenis's mammoth project, Flora Malesiana, celebrated its tenth anniversary. As Jacobs (1960) put it: "They [photographers and nearly 40 celebrants] had gathered to celebrate the fact that ten years before, in a bare whitewashed room somewhere in the township of Bogor, Java, two men put

their signature on a sheet of paper. On that hot sleepy afternoon in 1950 there were no onlookers, no newsmen, and no photographers. One of the two men was a notary, the other was a botanist, one Dr. C G.G.J. van Steenis. With their signatures, the Foundation Flora Malesiana had come into existence." Now,a decade later, the Flora Foundation supported several full-time botanists, the Director (of the Flora), and a budget approaching that of the entire rest of the Rijksherbarium.

Number ten of the series on "genera of Hymenomycetes" appeared in Persoonia (Donk 1960a, 1962a). It gave Donk the opportunity to try out a new typesetter, for whom the lengthy manuscript must have been challenging. This installment was not clearly numbered, and Donk wrote [173]: "Since the 'Polyporaceae' form a big group which has attracted much attention from taxonomists during the last few decades, it was thought convenient to issue this tenth part as a special unit without too many connections with the preceding parts." Indeed [174], "I most emphatically do not regard the 'Polyporaceae' … as a natural group." Even after "paring off the excrescences" of Fistulinaceae, Ganodermataceae, and Hymenochaetaceae, the "Polyporaceae" was still artificial.

Donk included a small dictionary of nomenclatural terms used frequently in his writings. For the uninitiated nomenclaturalist, explanation of such terms as devalidated names, nomen anamorphosis, typonym, and monadelphous honomym would have been welcome in piercing the density of Donk's discussions.

Especially of note was Donk's [233] discussion of Lloyd's polypore nomenclature and his (Donk) concordance to Lloyd's (1910a, b, 1911, 1912) subgeneric "Polyporoid" names. Although Donk was meticulous in citing Lloyd's literature, he nonetheless was generally dismissive of Lloyd, who, Donk opined, had personally held back American mycology by a half-century (MAD to Burdsall, Josiah Lowe, RHP, et al., pers. com.; see also Petersen 2022).

Just two years later, in another unnumbered paper in the "Genera of Hymenocmycetes" series (XIV; Donk 1962c) revisited the subject in reply to Cooke's (1960) "The genera of pore fungi." Donk: "The reader who compares the two publications [Donk 1960a, 1962a; Cooke 1960] as to details will find many discrepancies, but he will also find that most of them were repetitions from Cooke's previous publications and that I already dealt with them in my above-mentioned paper, and that there is no need to return to these. Other discrepancies will be indicated below."

If I (RHP) am any example, the mycological community often found Donk's line of logic, coupled with terminology, to be tortuous, and buttressed with

exhaustive historical references often incorporating the original language, rendering the whole discussion impenetrable. It was at that point that some workers threw up their hands with exasperation and proceeded with actions risking nomenclatural rejection. Although decades before its time, the "one fungus, one name" movement (Rossman & Samuels 2005) was already stirring. Donk felt constrained to explain his methodology. His (Donk 1960b) short paper on "conventional systems" was a compact lecture. His purpose was merely to convey that the International Code of Nomenclature deals with only names that conform to the Linnaean binomial system based on whole plants – including (and accenuating) sexual apparatus. When only part of the plant was available, a "conventional" system was rigged — i.e. when only the asexual state of a fungus was known. The coining of the terms "form species" and "form genus" was one result. The paper could be understood as preliminary to another series (Donk 1960c) in which nomina anamorphosium were dissected in greater detail.

After his routine report of proposals for nomina conservanda proposita (Donk 1960e), Donk's (1960f) final contribution for the year was, perhaps, the shortest of his career, dealing with his own prior proposal of *Tylosperma* Donk (Hymenomyetes). Even the expert had to correct himself. Since then, *Tylosperma* Donk had been found to be a later homonym of *Tylosperma* Botsch., a genus of flowering plants, and, to make matters worse, there was *Tylosperma* Manny, coined for a genus of fossil plants. Accordingly, Donk proposed *Tylospora* Donk, nomen novum, with two included species.

Instead of Donk's usual annual contributions, Persoonia carried a significant paper by Rolf Singer (1961), the results of a lengthy stay at the Rijksherbarium examining agaric material from the collections of C. H. Persoon. Considering Singer's opinion of some of Donk's nomenclatural judgements, it is interesting to read: "I am particularly indebted to Dr. H.J. Lam, Director of the Rijksherbarium who, on the initiative of Dr. M.A. Donk, has invited me to undertake these as well as other Agaricales-studies in the Mycology Department of their Institution....This author [Singer] has been preoccupied with the possibilities of application of modern taxonomical methods in the case of material as old as this (many specimens older than a century and a half!) and with the possible upset any definite determinations may cause in the list of generally known and accepted interpretations of common European species. Both fears have proved to be needless." Singer expressly thanked the staff of the Rijksherbarium, including the Director, Donk and others.

Singer was gratified that even these ancient collections were identifiable using "modern" anatomical methodology. He drew attention to Fries's (1830)

low opinion of Persoon's (1828) species described in the third edition of Mycologia Europaea which Fries considered was only written for money.

Given all this, it is remarkable that Singer did not cite Donk's (1934) dissertation publication which covered much of the same ground.

As though answering his own remarks in previous installments of the "Genera of Hymenomycetes" series, Donk (1961) tossed off four new families in three pages. All were intended to be natural segregates of artificial "family units:" Bankeraceae from "Hydnaceae" (no. 5); Echinodontaceae from "Hydnaceae/Polyporaceae" (nos. 5 and 10); Gomphaceae from "Clavariaceae" (no. 3); and Clavulinaceae from "Clavariaceae" (no. 3).

As a postlude to his 1952 work in major herbaria to ascertain placement of classical specimens (Fries, Berkeley, Patouillard, etc.), Donk (1962b) borrowed material from Herb. Karsten in Helsinki. These and others could be grouped as resupinate basidiomata.

In mid-1962, Donk (1962c) posted some comments on the results of Singer's time at the Rijksherbarium over the winter of 1960-1961 (see above for Singer's report). Donk: "... the principal aim of this paper ... is to publish validly some names applied by Singer (1962). ... I am much indebted to Dr. R. Singer for many fruitful discussions on these agaricaeous 'Cyphellaceae' and their relationships ... when [Singer] was a guest at the Rijksherbarium, Leiden." The reference to Singer (1962) was to the newly published second edition of "The Agaricales in modern Taxonomy."

Their "fruitful discussions," according to Donk centered on the scope of "Cyphellaceae." Donk: "Not only does the artificial family of the 'Cyphellaceae' contain a significant agaricaceous element, it also includes some taxa that are related to various Aphyllophorales..." But the next few lines pointed to a much more fundamental concept. "In addition, I find it difficult to make up my mind about a considerable residue. It is yet impossible to be sure that these left-overs do not include groups worthy of recognition as one or more distinct families, but I am inclined to think that on the whole this is not the case and that most elements of the residue lacking pronounced tendencies to form more or less resupinate or effuse-reflexed fruitbodies are agaricaceous." Donk's equivocation was nothing new, but expressed a strictly taxonomic dilemma in a basically nomenclatural paper.

Recently, the French mycologist Chadefaud (1960) had proposed yet another terminology for basidial structures, and Donk (1962d) felt obligated to assess Chadefaud's construction and point out errors of omission.

In the first of three papers in Taxon, Donk (1962e) took on another noted mycologist, this time Lewis E. Wehmeyer (1887-197; 1961). An additional

class of names included (at that time) nomina confusa, which Donk found too often in Wehmeyer's treatise. Donk: "This is a fine example of how sweeping conclusions can be based on confusion. The author of the above paragraph [quoted in full by Donk] is an authority no doubt on the group he monographed and no one would assume without questioning that he had studied the case thoroughly before stating it, and, therefore, one would not hesitate to attach some weight to his generalized opinion. Yet, there is little in the paragraph that can stand a critical test."

Over the years, Donk had also expressed concern over several of the names employed by Secretan (1833). Considered innovative, Secretan's volumes were close enough to the mycological starting point to cause, if nomenclaturally acceptable, some author changes. But more seriously, Secretan occasionally employed trinomials (or phrase-epithets sensu Donk) in violation of the Code. Donk (1962f) pointed out numerous reasons why Secretan should be banned in toto, but demurred to make a decisive recommendation. Secretan's volumes were banned a few years later.

In an equally short paper, Donk (1962f) took on his old adversary, GW Martin (1961), who had commented on Donk's "conventional nomenclature of imperfect fungi." Donk derided Martin's philosophical alternatives, and commented that he (Donk) would answer further in an upcoming paper written but not yet published (assumedly soon in the series of "Genera of Hymnomycetes"). He did so (Donk 1962g).

The twelfth installment of the "Genera of Hymenomycetes" covered generic names based on imperfect states. In it, Donk (1962h) not only referred to Martin, but also had to cope with a large and valuable paper by Stanley John Hughes (1918-2019). Hughes's (1958) paper was unrelated to Hymenomycetes, covering only "taxa" (mostly "species" rank) demonstrably based on non-sexual states, usually considered as an artificial assemblage known as Hyphomycetes. He had already contributed a system of taxonomy of such fungi based on their method of producing asexual spores, rather than morphology of the spores themselves (Hughes 1953). Both Hughes papers were taxonomic, which did not inhibit Donk.

The crown jewel of Donk's entire series, however, appeared the same year (Donk 1962i). The agarics — mushrooms and their morphological mimics —, had a longer and far more complex history than other Hymenomycetes and the numbers and histories of names were monumental. Decisions concerning an organ for publication were limited by the size and complexity of the manuscript. In fact, the new Beihefte series of Nova Hedwigia, generated by J. Cramer, was

a "natural," especially since some long and specialized book-length papers had appeared previously.

Singer's magnum opus, "Das System de Agaricales" and "The Agaricales in modern taxonomy," already had seen reincarnations (Singer 1936, 1942, 1943, 1951) and provided much ammunition for Donk. Both authors had referred to lengthy person-to-person discussions, so they were familiar with some personal idiosyncrasies. In his introduction, Donk wrote: "Since before the manuscript was closed, I had the good fortune that Dr. R. Singer, Tucuman, Argentina, found an opportunity to read and study some portions of it in detail. Our discussions may not have always lead [sic] to complete agreement, but there can be no question that his remarks and views have greatly improved the original text." Enlisting a potential critic as a reviewer — a clever arrangement to fend off needless hard feelings in public.

And so ended Donk's series on the "Genera of Hymnomycetes" series, conceived as early as 1931, fundamentally re-envisioned after World War II, and requiring massive data collecting. Maas Geesteranus (1973) and others marveled at Donk's memory coupled with his insatiable bibliographic searching. The series culminated in three small follow-up installments (Donk 1962j, 1963a, b), and, as a whole, occupied some 812 pages of print, or about 100 more than Persoon's (1801) Synopsis Methodica Fungorum. In the tiny community of mycological nomenclaturalists "feathers were rumpled," but by and large, mycology survived.

Interestingly, inside the back cover of Donk's (1962i) paper, J. Cramer already advertised a reprint edition of Donk's "Genera" series, parts 1-14 (except numbers 10 and 11), which did not appear until some four years later (Donk 1966a).

In a celebration of his 70th birthday in 1963, K.B. Boedijn was acclaimed as distinguished mycologist and elected an honorary member in the Nederlanse Mycologische Verenging.

CHAPTER 10. SOWING AND REAPING

As Donk's reputation grew, it was said that the mycological community was split between those who quipped, "He should stick to nomenclature, but he's a lousy taxonomist," versus "He's a competent taxonomist, but for heaven's sake keep him away from nomenclature." For at least some of the "jury of his peers," there was real ignorance about the evidence presented, and where evidence ceased and polemics began.

Montreal had come and gone, for better or worse. The culmination of the "Genera of Hymenomycetes" had appeared. As it is with any successful academic scientific career, the early years are spent gathering data and publishing the results. The middle years are for collating those data into a larger context, and, if the stars are fortuitously aligned, the role of "elder statesman" is bestowed just before and long after retirement. In 1963, Donk was 55, accommodating to an uncomfortably cool climate, co-editor of a journal, and no longer toiling over the most significant bibliographic project of his career.

In a perfunctory statement, Donk (1960e) reported that before Montreal, Nomina Generica Conservanda Proposita had been made with no regulation, but going forward, all such mycological proposals must be published in Taxon, so the Special Committee members (especially the Secretary) could take note, assemble arguments, and tally votes.

The Special Committee for Fungi and Lichens had been recycled with new personnel added and others relieved. Donk understood that his ascension as Secretary was not without controversy, and one of his first tasks was to invite GW Martin and Donald Rogers to rejoin the Committee. In Donk's (1964a) long report in the wake of the Montreal Congress, he wrote: "In a circular letter dated May 18, 1960, the members were asked to vote on the co-optation of Dr. G. W. Martin and Dr. D. P. Rogers. Both proposals were favourably received. Dr. Martin accepted the nomination, but Dr. Rogers did not reply, according to information from the secretary of the General Committee on Botanical Nomenclature." No straightforward statements on who devised the circular letter putting Martin and Rogers up for co-option have survived, but the last words might indicate that the Secretary of the General Committee (not Donk) may have been involved. Martin's acceptance may have been ceremonial, but at least positive. Rogers' silence could point in more than one direction: pique or inability to deal with such things.

It was also necessary to replace Madame LeGal, who had resigned as Chairman. John Axel Nannfeldt (1904-1985), mycologist at Uppsala, Sweden, was elected. The Committee seemed ready to do some work, and for Donk, periodic reports were necessary, as well as almost constant infra-Committee communication.

But although the secretary's position wielded some power — of persuasion, if not absolute — the complexion of Donk's daily research changed materially. He became a stereotype professor, lecturing to a figurative class about abstruse phenomena from the pages of a textbook. Two small papers (Donk 1963c, d) dealt with particular genus names. His (Donk 1963e) review of Singer's latest

edition of his "Agaricales in Modern Taxonomy" was hardly substantive — the least possible effort.

Four more papers (Donk 1963f, g, h, i) were explications of various nomenclatural dogma. The first (Donk 1963d) was introductory: [Donk] "This situation [of a bewildering Code of Nomenclature] is a far cry from what it should be: nomenclatural rules should be the handmaiden of the taxonomist and the first demand on the Code is that it be useable without recourse to a complete nomenclatural library, extensive historical research or superhuman insight."

Another (Donk 1963g) was a useful guide to terms used to describe the hierarchy of botanical names: admissible, validly published, legitimate, etc. In yet another, Donk (1963h) discussed superfluous names, a subject to which he would return in a speech to the Edinburgh sessions the following year. The final paper (Donk 1963i) covered later homonyms.

Two additional items are indicative of Donk's reputation for bibliographic scholarship. Whether it was the publisher (A. Asher Co.) or Donk who originated the idea to reprint historically seminal mycological papers, it was not a coincidence that Donk wrote an introductory note for each. No one else had the data and background to summarize the lives, context, and contributions of the original authors, and Donk's (1963j, 1964c, 1969a) short notes are well worth reading merely for mycological history. They are emblematic of "the elder statesman."

Equally auspicious was the Presidency of the Third European Mycological Congress held at Glasgow, Scotland, in 1963 (Glasgow 2022). Attendees came from 16 countries, including several from behind the "Iron Curtain." Excursions were arranged before and after the Congress. Donk (1966b) chose the venue to review (again) the history of the family "Cyphellaceae." He understood that the morphology of the "hairs" (those hyphae which clothed the outside of the cupuloid hymenophore) was becoming more important, but, he wrote: "One sometimes feels like a pedlar going from genus to genus, from door to door, with his often limited notes to find response. … I certainly would not be surprised if the name were to be taken up again to act as a crystallization centre [sic] for a family very different from the one that was originally called by exactly the same name. It may well happen that within a few years we will be able to watch the rise of a family of Cyphellaceae once more."

In a similar situation, Donk's proposal to conserve *Calocera* had led to another paper, this one attempting to accurately depict some "traditional"

species of the Dacrymyetaceae (Donk 1964d). But a giant step forward was afoot. Having been scrupulous about repeating that many "family" names were artificial, not composed of natural assemblages, now an attempt was timely to take many of the generic names, undergirded by type species and especially their type specimens, to group some genera into more natural families (Donk 1964f). It was a rare sortie into explicit taxonomy.

Here, care must be exercised: the Aphyllophorales (of ordinal rank) is only one part of the Hymenomycetes (now nomenclaturally obsolete, but still in use: "Basidiomycetes" with hymenophore arranged in a palisade layer termed a hymenium). So, if some new alignment of agarics were anticipated by a potential reader, it would not be found. Of the preface to his outline, Donk wrote: "There was a time when Fries's classification of the Hymenomycetes was considered adequate and even now deviating from it often arouses suspicion in the mind of some mycologists. At the other extreme radical changes are often too eagerly accepted without much critical examination. That there is a need of a thoroughly revised classification is evident and as far as the Agaricales are concerned it has been supplied by Singer (1962) in a detailed manner, down to the species level. This is not the case with the Aphyllophorales. No revision of Patouillard's classification published in 1900 has been undertaken and the elaboration of the Friesian system by Killermann (1928) is totally inadequate for present use."

Donk went on: "As long as it remains impossible to offer an advanced new classification, the only solution for improving the still current elaboration of the Friesian classification is to compromise and introduce into it those innovations one is prepared to accept. This is what I have tried to do."

The work was divided into three parts: 1) general considerations; a discussion of each taxonomic character assayed, all the way from the basidium (as though there had not been enough written on the subject previously) to hyphal construction (shades of Corner's series on polypores); 2) "special part;" diagnosis of each family, including its history, inclusive genera and short but often complex key to various basidiomatal, infrafamilial types (i.e. wrinkled, polyporoid, hydnoid, amphigenous, etc.); and 3) alphabetical enumeration of genera, much in the style of his "Genera of Hymenomycetes" series. Instead of previous systems which grouped fungi by basidiomatal type, microscopic features were elevated and hymenophore types reduced. In this, the echo of Patouillard could be heard. Especially informative was Donk's [219-223] discussion of stichic versus chiastic basidia (Juel 1898, 1916).

The core was the "Special part." In his introduction, and in characteristic

Donk style, he wrote [201]: "A few words are needed to explain the treatment of the synonymy of the taxa of higher rank then genus. … The presentation of this synonymy was a problem in itself: how to bring order into a mixture of scientific precision, human slovenliness, and lack of discipline." In short, for anyone yearning to use this publication as a taxonomic guide for specimen identification, the work was almost impossible to search. My tattered copy is testimony to this folly.

Four years had passed since the Montreal nomenclature sessions, where Donk had excoriated Rogers for dereliction of duty, and his (Donk) report from the Committee (Donk 1964a) reprieved the Committee's progress, including the three-part report by Stafleu (see above) and several other infra-Committee communications. Reference was made to nomina generica conservanda still pending, and a separate paper was published on this particular piece of business (Donk 1964g). Several of the proposals had emanated from or been considered by a committee of the British Mycological Society (Wakefield 1939, 1940), but many others had been carried over from Montreal, or were newly introduced. The summary (Donk 1964g) was exhaustively documented. Because these were merely proposals, infra-Committee votes could not yet be reported.

Donald P. Rogers did not escape unmentioned, but in a discussion of the genus name *Xerocomus*: [42-43] "More recently Dr. D.P. Rogers kindly drew my attention to the fact that Quélet himself had made clear that *Xerocomus* was nothing but a change for *Versipellis*, which removed all doubt that the proposal was in order." Rogers was more often referred to as "the former Secretary."

Preceded by publications of the proposals to be presented (Lanjouw & Stafleu 1964; Stafleu 1964a), the Nomenclature Sessions before the Edinburgh Congress convened on Wednesday, 29 July, 1964, overseen by J. Lanjouw, with Frans Stafleu as "Vice Rapporteur." As though a premonition of things to come, attendees in opposition to the Code itself as massaged by the Editorial Committee asked for a vote of "no confidence" straightaway. The motion was forcefully rejected, but was a sign of the suspicion with which the Editorial Committee was held (see above). Similarly, Morton Lange, mycologist from Denmark, proposed that proposals to change the Code itself require a 60% majority to be adopted; the motion itself was so. The vote was 185 for and 94 against, indicating the size of the audience in attendance. Parenthetically, I can identify only 11 mycologists among the registered delegates, not exactly overpowering.

By the sixth session, in the morning of Saturday, 1 August, it was time for reports of committees, including that for Fungi and Lichens. Donk's voice had

been heard occasionally over the preceding days, reminding the attendees of the Code's applicability also to fungi, but never voicing a pivotal opinion, and the report of the committee was not anticipated to be rancorous. Donk reported that the number of members of the committee was manageable, but that the numbers of the members voting, was disturbingly low. This was especially true when two persistent situations remained: 1) later and different starting points for nomenclature of various fungi; and 2) the freedom to apply a binomial to a fungus known only from an imperfect state (nomen anamorphosis). Through the sessions, mycologist's voices had been heard relatively rarely, but, in discussion of the Committee report, Drs. Margadant, McVaugh, Ross, Proskauer and Rollins (as well as Stafleu), all normally plant specialists, took active rolls, testifying to the wider applicability of mycological proposals on the Code.

At the end of the sixth session, the Nominating Committee announced their slates for various committees. For Fungi and Lichens, the roster was as follows: JA Nannfeldt (Chairman); MA Donk (Secretary); members, CR Benjamin (USA), J. Boidin (France), FC Deighton (UK), H Dennis [sic] (UK), JW Groves (Canada), M Hale (USA), M Hongo (Japan), PW James (UK), R Korf (USA), M Lange (Denmark), GW Martin (USA), M Moser (Austria), J Poelt (Germany), R Santesson (Sweden), R Singer (USA), H Steyaert (Belgium), AP Vassilkov (USSR), and L Weresub (Canada).

That afternoon, after a morning of more or less routine business, the session turned to "Report of the ad hoc committee on superfluous names." By title, a more arcane subject could hardly be imagined: a good opportunity to digest an ample lunch and perhaps a small draught of Scotish stout.

Although "fireworks" were to come, the cause for which they were launched must first be summarized. First, a superfluous name was defined as follows (Stafleu 1966b): "At present [in the Montreal Code] Art. 63 provides that names that were superfluous when published, i.e. that were published for taxa for which a different but legitimate name or epithet was available, are illegitimate and can never be legitimately used." The challenge was that such superfluous names, especially if typified by a different entity than the original, ought to be available to be used in new combinations.

The first proposal, by Luella Weresub and Gregoire Hennebert, would change the wording to declare such superfuluous names "incorrect" but not "illegitimate." Incorrect names, under the Code, could be corrected so as to be rendered correct. In the interest of transparency, it must be divulged that Weresub was not a favorite of Donk. In fact, he had rather hard words for her.

"I don't know whether [Donk] ever talked with you about Luella Weresub, but her name came up one evening and he let me know in no uncertain terms that he could not tolerate her. It was a totally different level of dislike than for DPR[ogers]. He [Donk] flat out called her a vicious woman. I was stunned!! One never had to guess where Luella stood (stomped??) on an issue." (HH Burdsall to RHP pers. com.; MAD to RHP pers. com.). While the Weresub/Hennebert proposal might have had value, it would have taken some effort by Donk to support it. But, in fact, he did so, albeit with some reservations.

On the other side of the issue, i.e. superfluous names should be perpetually illegitimate, — was the present Code. For Donk, this was unacceptable. If the later name was represented by a type different from the older name, it should remain available for use in a different combination; and all this was exacerbated by pre-Friesian or pre-Persooninan names which were "devalidated" by later starting points for mycological nomenclature.

One person in the room recalled the atmosphere: "M.A. Donk was a tall, big man; a great presence that demanded attention when he stood up to speak and silence fell. The look on his face I can recall even today [mid-2022]. He made an impassioned, long speech, and it was not just a matter of semantics, it was a matter of life and death based on his knowledge of looking at early mycological works. Most [delegates] present only understood that names started with Linnaeus and were unaware that [mycological nomenclature] started with Fries and with Persoon, but that many of the species they catalogued were described in even earlier texts and we needed a way of recognizing their efforts. There was an 'audible' silence and much shuffling by people like Frans Stafleu and there appeared to be uneasy peace until there was some reaction. … What impressed me was that Donk, who had had an evening with Elizabeth and myself and Prof. Rog[ers] McVaugh (from Ann Arbor) and his wife was such a changed man between then and the meeting. He was very convincing!" (Roy Watling to RHP, pers. com.)

Stafleu (1966: 55] wrote of Donk's remarks: "The process of selecting lectotypes was still going on. At the moment many names had not yet been typified. He [Donk] had been faced with the application of the rule as it stood, and knew that a really strict interpretation would require the killing of hundreds of names. 'I go back to my desk and write a bunch of combinations and I am a bloody man again; I simply refuse to do that.'" Stafleu [56] continued his description of Donk's oratory. "The notion of illegitimacy in the Code had become more and more involved. Names became superfluous long after their publication because of ultimate typification: stillborn friends 100 years ago. 'I

do not want to go down in history as bloody Donk, Donk the Ripper.'"

Donk's "bloody Donk" speech was sensational enough to be summarized at length by Stafleu (1964b): "Donk delivered the [sic] speech of the meeting...", even more later (Stafleu 1966; see above), Nicolson (1991: 42) wrote: "My best memory of Edinburgh was the 'Bloody Donk' speech." The atmosphere in the room had charged as Donk's voice rose, and a moment of silence fell before a generous round of applause. All this in support of a losing effort: the article remained untouched for the time being.

The nomenclature section concluded with a statement by G. W. Martin. He pointed out that from the very first Lois of de Candolle, the document strove for simplicity. The words, however, had been moved from the articles to the preamble, where it no longer commanded reading. Although he did not mention any particular intricacy, he moved that the statement of simplicity be re-inserted at the start of the articles, at the direction of the Editorial Committee. The motion was approved (Stafleu 1966). And so the session ended and the delegates melted back into the less intellectually stressful activities of the larger Congress.

For Donk, not everything subsided: he acted as Chairman for a symposium, "Criteria for classification in the Higher Basidiomycetes." Even the title would be substantially repeated some four years later (Petersen 1971), with Donk again in a leading role.

In the United States, the University of Buffalo, New York, was subsumed by the State University System. One result was decreasing regard for the natural sciences. A job as mycologist, though, opened at the University of Tennessee. Petersen applied, was hired, and arrived on campus on January 1, 1965. This brought him in close contact with the retired but still active Lexemual R. Hesler, one of the deans of agaric taxonomy, and also with the Great Smoky Mountains National Park, seemingly a comfortable place from which to investigate the clavarioid fungi. The Botany Department excelled in taxonomy and ecology, and a course in botanical nomenclature seemed desirable. Petersen took it on, and with it, exposure to M.A. Donk.

Donk had hardly returned to Leiden from Edinbugh when the mycologists were saddened by the sudden death of their long-time colleague Karel Bernard Boedijn (on whom much more above). Another casualty of the Indonesian cleansing of the Dutch, upon retirement he had returned to The Netherlands two years after Donk. Although his mycological investigations moved to his home in The Hague, he developed close relationships to the mycologists of the Rijksherbarium (acting as supervisor for Joop van Brummelin). Donk (1965a)

extolled Boedijn's contributions, with a bibliography of some 90 publications. Of his colleague, he wrote: "He was one of the very few mycologists who lived in the tropics for a long span of time ..." Upon his retirement, Boedijn reached back to the very roots of Indonesian mycology to contribute a chapter about the fungi in Rumphius's Herbarium Amboinense (Boedijn 1959).

Meanwhile, the world continued to spin. Donk (1966d), as usual, found fault with a previous paper by Rogers (1959), this time dealing with a fungus parasitic on another fungus. The jargon surely escaped the casual reader.

Donk's only other publication of the year was a transcript of a presentation to the Amsterdam Royal Academy of Science —a lecture on the progress of taxonomy in the Hymnomycetes (Donk 1965b), a theme which was to be repeated just three years later in the keynote address to the Hesler Symposium (see below).

Whether a tribute to the popularity of Donk's "Genera of Hymenomycetes" series or — almost surely — its relative unavailability, especially the early installments, a reprint edition of most of its parts was issued in 1966 (Donk 1966a). As he, himself, wrote: "It is not without misgivings that I have consented to this re-issue. Since the preparation of the first part the 'International Code of Botanical Nomenclature' was revised thrice [Stockholm, Paris, Montreal] and thus has been a constant source of instability. Moreover, much new information was gathered after the several parts were published. Finally, a considerable number of errors of various kinds were detected, not in the least due to the author's unfailing flair to overlook printing errors and correct proofs in such a manner that the printers do not follow his instructions. The best solution would have been a rewriting, but I felt no inclination to spend once more much of my time on such a task."

Donk's research seemed to take on a myco-historical caste. One paper (Donk 1966e) introduced a new polypore genus for an old species, and the second (Donk 1966f): "In an attempt to bring the nomenclature of several European polypores up to date ..." The most complex paper of the year, however, was a retrospective update of the first part of his dissertation (Donk 1931) on hymenomycetous Heterobasidiae (Donk 1966g).

The very start of the paper read: [145] "The main chapter of this publication, entitled 'Check list of European hymenomycetous Heterobasidiae' exposes a very sick body on the operation table. A great deal of surgery is needed to restore the patient to some measure of health. This must be performed by the joint efforts of competent specialists, several of whom are already engaged in the task. ... The check list itself is an extract of a card index for the Hymenomycetes

which I have been building up over a [146] considerable period of time, a card index of a kind that is compiled before beginning monographic treatment. I had no intention to go beyond this stage." [Italics his]

The taxa to be covered were traced by Donk to Patouillard's (1900, more above and below) group, Heterobasidiae, but with major revisions. [146] "The groups thus covered are (i) the Septobasidiales, included by Patouillard in his Auriculariaceae; (ii) the Tremellales, here conceived as a combination of what is now often called the Auriculariales and Tremellales; (iii) the Tulasnellaceae; (iv) the Dacrymycetales; and (v) Exobasidiales."

Much of the text would be impenetrable were it not for the extensive pages explaining Donk's short-hand (those symbols and abbreviations buried in his citation of nomenclatural history). If Donk's nomenclatural bibliography is to be of frequent use, these pages might be scanned for constant reference.

Just down the road in Utrecht, fellow nomenclaturalist, Frans Stalfeu, was amassing a very different "card-file." This one was not to taxa, but to authors, their publications and taxonomic contributions. Like Donk's, Stafleu's database had been gathered for some years, and in the following year (Stafleu 1967) was published as "Taxonomic literature." Mycology was not included. The volume was so well-received, it led to the multi-volume "Taxonomic Literature II," in which mycologists were given their rightful places (Stafleu & Cowan 1970).

In mid-1966, Donk took part in a ceremony memorializing his patron saint, Christiaan Hendrik Persoon. In 1938, J. L. M. Franken (1938) had located and visited Persoon's plot in Le Pere Lachaise cemetery in Paris. He found the gravestone tilted and half buried in humus and weeds. No improvement took place until a small contingent of Parisiains of South African extraction took up a project which resulted in a fitting gravesite. A small ceremony was organized, with the Ambassador from South Africa presiding. Roger Heim was present and Donk, perhaps nominated by Heim, delivered some invited remarks on Persoon and his time in Paris (Hugo 1966; Fig. 27). It was emblematic of Donk's status as a Persoon scholar and appropriately entertaining speaker. I have not found his remarks, which were surely informative.

M.A. Donk was, if anything, a punctilious man. This penchant for detail extended to the reprints of his own publications. Each publication was assigned a number, and a record was made of each recipient. Exchange was always solicited, so a record was accumulated of who was publishing (names and addresses), and on what fungal groups, and who desired to receive his contributions (MAD to RHP, pers. comm.). He was also a voracious reader and chronicler, so he knew who else was working on the same groups as he, and he built personal

The wreath-laying ceremony in Paris with, from left to right, Prof. R. Heim, Member of the French Institute and Director of the French Museum of Natural History, Prof. M. A. Donk, Head of the Mycological Department of the Rijksherbarium, Leiden, Prof. H. B. Rycroft, Director of the National Botanic Gardens of South Africa and the South African Ambassador, Mr. W. Dirkse van Schalkwyk.

FIG 27. Ceremony at Persoon gravesite in Paris. Left to right: Dr. Roger Heim, Dr. M.A. Donk, Prof. H.B. Rycroft, Mr. M.W. Dirkse van Schalkowyk.

relationships when possible.

One such relationship developed with John Eriksson. Donk was impressed by Eriksson's paper on Muddus National Park (see above). According to Nils Hallenberg, a former student of Eriksson, Donk invited Eriksson to join him in Java even before World War II, unlikely since Eriksson would have been a teenager. Much later, sometime in the 1960s, Eriksson suffered a series of depressive periods. In the midst of one, he boxed up many of his collections and shipped them to Donk with a note that he was no longer able to use them, so they should be held by Donk. According to Donk, he (Donk) simply re-addressed the boxes and shipped them back with a note, telling Eriksson that he (Eriksson) was NOT finished with them. The episode was never discussed again between the two (MAD to RHP, pers. com.). Eriksson went on to publish frequently, and (with co-authors) produced and illustrated the multi-volume "The Corticiaceae of North Europe." (Eriksson & Ryvarden 1973, 1975, 1976; Eriksson et al. 1978, 1981, 1984; Hjortstram et al 1987, 1988). Eriksson's line drawings became models for mycological illustrations.

Donk's sole, but noteworthy, publication for 1967, paid special acknowledgement to Josiah Lincoln Lowe (1905-1997; Ginns & Worrall 2003), a senior professor at Syracuse (NY) School of Forestry. In addition to his work at Syracuse, Lowe was involved in a study of the polypores in the Curtis Gates Lloyd Herbarium at Beltsville in the USDA Plant Industry Station (Petersen 2022). Donk had met Lowe during one of his trips to the United States and they had become good friends, at least by correspondence. Lowe had compiled the raw material for a book on polypores written by Overholts (1953), the materials stranded by Overholts's death. Lowe was quite willing to allow Donk to examine

North American material of polypores, especially the resupinate or effuse taxa, commonly known as the "porias," of particular interest for Donk. Lowe had also supervised the PhD research of Robert Gilbertson, who also was interested in resupinate and effuse-reflexed forms. Lowe and Donk were also close in age, which might have helped as well, and their wives had also drawn close.

Donk's "Notes" included a discussion of cystidia found in the tramae and hymenia of *Poria* (sensu latissimus) and suggested that natural groups could be approximated based, in part, on such structures. Perhaps the most useful portion of the paper [65-67] is the "Key to the poria genera reduced to their type species as far as these occur in temperate northern regions."

Tucked in in late August, 1966, Donk attended the fourth European Mycological Congress, this time in Warsaw, Poland. Attendance was large, 150 people from 24 countries. (One wonders whether English was the "lingua Franca".) Excursions were held in a nearby national park. Significantly, Stanislaw Domański, author of at least two volumes on fungi (Domanski 1965; Domanski et al. 1967), was present, of special interest for Donk, who held Domanski's work in southern Poland as particularly important. Dr. Alina Skirgiełło (1960), the senior mycologist in Warsaw, was the local chairperson.

The Hesler Symposium. In eary 1967, in the United States, the National Science Foundation (NSF) announced a new program in which financial support could be granted for meetings or symposia on definable subjects. Delegates or speakers from foreign countries could be supported. One afternoon, the Botany Department Head poked his head into Petersen's office, announced the new program and commented, "Got any ideas about what we could do with such money?" It took less than a day for an answer: "How about a symposium summarizing new developments in the systematics of the mushrooms and their relatives." Moreover, 1968 would see the 80th birth year of Dr. [Lexemuel Ray] Hesler (Fig. 28), providing a rationale for the conclave. Much work would be necessary: work began.

First, arrive at a workable concept. Second, construct a program. Third, write a proposal. Fourth, get approval from the University administration (not easy). Fifth, decide on a slate of speakers and obtain their interest, conditional of course. The only potential speaker unable to attend was John Corner, due to a conflict of commitments. Only at this point could the proposal be submitted to NSF, with its queue. The plan seemed in place by early-1968. Invitations and announcements were written and very quickly, wide interest became obvious.

In 1968, two thin papers were produced by Donk, perhaps small in comparison to the two to be delivered in person in the United States. In the

Fig 28. Dr. Lexemuel Hesler, University of Tennessee. 1965. Photo: Dr. Walter Herndon.

first, Donk (1968a) took to task an American, Anthony Liberta (1966), who had questioned Donk's long-held dogma on typification of genus names (Donk 1952c). Back to back with this paper, Donk's (1968b) latest report from the Committee for Fungi and Lichens appeared in mid-1968. It consisted of a report of the Committee's vote on a list of proposals for conserved generic names, most of which had received attention by Donk over the years. Only a single name, *Rhodophyllus*, was rejected (not for the first time). One not rejected, though, is worthy of mention. On the conservation of *Ramaria*, Donk wrote: [580] "In a recent discussion of the name *Ramaria* by R.H. Peterson [sic] (in Taxon 17: 278-280 1968) the principal reason which induced the proposal as stated above, was overlooked!" Not exactly a good first impression. Luckily, a previous paper had largely agreed with Donk's disposal of clavarioid genera (Petersen 1967).

As plans for the "Hesler Symposium" (in quotes because the actual title was significantly longer and unwieldy: "Evolution in the Higher Basidiomycetes. An International Symposium.") materialized, a program took shape (Petersen 1969). Two lectures were planned for each morning, two more for the afternoon for five days, followed by a few days of fieldwork in the nearby mountains. Discussion would follow each paper for up to an hour, to give attendees ample time to ask questions and make their opinions heard. Two general topics would be explored: supportive characters in basidiomycete systematics, and systematic studies of the fungus groups. Evenings were left unplanned, to give everyone the opportunity to mingle as comfortable. Housing was assigned in a university dormitory — perhaps somewhat spartan, but without discrimination — and meals were provided for the speakers.

An added feature: all papers and discussions would be electronically recorded for both accuracy of editing and archiving, and the tapes eventually deposited for future referral. Each speaker was asked to deposit a copy of their

talk in English, and, luckily, sufficient bilingual attendees were present that discussions could be carried on in (at least) two languages. The number of non-programed attendees was more than double the number of speakers.

Now, in the spirit of transparency, it must be disclosed that when the speaker/subject list for the "Hesler Symposium" was drawn up, Petersen had no (repeat, no) realization of, or even suspicion of rivalries, ill-will or poor relations among the speakers. In fact, there were at least three such rivalries. First, the most obvious, recited above in some detail, brought Donk and Donald P. Rogers into close contact again — they had been at the same nomenclature sessions at two consecutive botanical congresses. They had locked horns, and included G. W. Martin, Rogers' major professor, over basidial terminology and matters of nomenclature for three decades, extending to the Edinburgh Congress in 1964. When Rogers served as Secretary of the Special Committee, Donk had mercilessly found fault with Rogers' handling of matters, and finally had replaced him as Secretary. Second, for some post-World War II years, Rolf Singer (by 1968, in Chicago), Alexander Smith (University of Michigan) and Roger Heim (1957; Director, Museum of Natural History, Paris, France) had worked independently (Singer 1958) and, for Singer and Smith (1958), together on taxonomy of agarics and associated Gasteromycetes. When Heim returned to Paris after two years in a Nazi extermination camp, the three had had a falling out, largely over rivalry concerning the "magic mushroom" of Mexico (Wasson 1957), and there had been little communication among the three for about a decade. Third, France still clung to its "colonies" after World War II. There developed a rivalry between the two French mycological centers, Paris (and Heim) and Lyon (with Robert Kühner and Jaques Boidin as chiefs of that laboratory). An uneasy truce had formed, with Paris exercising "jurisdiction" over French Africa including Madagascar, and Lyon concentrating on New Caledonia and other French Pacific and South American possessions. Nonetheless, the two camps did not seek each other out, and their research had taken distinctly different directions (Boidin 1971, Heim 1971; Fig. 29). None of these speakers were aware that the others had been invited to speak, not in any effort to bring peace (or fisticuffs) to mycology, but simply out of Petersen's ignorance. Yet another awkward scenario would have taken place had John Corner been able to attend and speak, but at least that relationship was known to the organizer.

A sage contribution was made by the Dean of the College of Liberal Arts of the University of Tennessee. On a campus where imbibing alcohol was banned, an opening reception was replete with wine and small snacks (Fig. 30). All

Fig 29. "Francophone" attendees at the Hesler Symposium, 1968. Left to right: Dr. René Pomerleau, Canada, Dr. Roger Heim. Paris, France, Dr. Jacques Boidin, Lyon, France. Hesler Symposium reception, 1968. Photo: Leo Tanghe

attendees were welcomed. Between physical juxtaposition and lubrication, by the end of the evening bonhomie had been (re-)established, at least superficially.

Invitation to give a keynote address had been put to Donk, for he was the only person known to have a broad enough record to encompass all the fungus groups included. In addition, he was scheduled to speak on the polypores, the fungal group deemed to be one of his specialties.

Fig 30. Hesler Symposium reception, 1968. left, Dr. Jacques Boidin; right, Dr. M.A, Donk (conversing in French). Photo: Leo Tanghe.

Donk (1971a) had apparently pared down some excrescences to his keynote address in order to fit into the allotment of an hour. Those in his audience who might have carefully followed

M. A. DONK

TABLE 1. DISTRIBUTION OF HYMENIAL CONFIGURATION OVER THE FAMILIES OF APHYLLOPHORALES.

Modern families \ Traditional families	Clavaria-ceae	Thelepho-raceae	Hydnaceae	Polypora-ceae	Merulia-ceae & Cantha-rellaceae	Agarica-ceae
Auriscalpiaceae			√			√
Bankeraceae			√			
Bondarzewiaceae *s. str.*				√		
Cantharellaceae		√			√	
Clavariaceae*	√	(√)[1]				
Clavulinaceae	√					
Coniophoraceae		√	√	√	√	
Corticiaceae*	(√)[2]	√	√	√	√	
Echinodontiaceae			√			
Fistulinaceae				√[3]		
Ganodermataceae				√		
Gomphaceae	√	√	√		√	
Hericiaceae	√	√	√			
Hydnaceae*			√			
Hymenochaetaceae	√	√	√	√		√
Lachnocladiaceae	√	√	√			
Polyporaceae*				√		√
Punctulariaceae		√				
Schizophyllaceae		√			√	(√)[4]
Sparassidaceae	√	√[1]				
Stereaceae*		√				
Thelephoraceae	√	√	√	√	√	√
Tulasnellaceae		√				

* Artificial families.
[1] Effused conditions of fruit bodies reported.
[2] Clavaroid conditions of fruit bodies reported.
[3] Mutually free tubes.
[4] The so-called gills in one genus (*Schizophyllum*) are not comparable to normal gills.

FIG 31. Chart from Donk's (1971) keynote address. Hesler Symposium, 1968.

his publications over the preceding 30 years would not have been surprised by the content. First, the progression from Persoon through Fries to Patouillard was traced, including a quip: [5] "That Lloyd ridiculed Patouillard was undoubtedly one of the reasons why Patouillard's system was ignored by North Americans and many other mycologists for a long time. It has been only during the last few decades that his [Patouillard] classification has inspired a later generation [6] of mycologists, and this has led, unavoidably, to a rapid increase in the number of genera and families." To a greater or lesser extent, in the court of mycological opinion, Donk had acted as the defendant's attorney. Second, Donk's major theme summarized families (Fig. 31) expanding (Thelephoraceae, Gomphaceae) or contracting (Cyphellaceae), the making of a family (Hericiaceae, par enchainement — chain-building), and two phenomena still being investigated (basidial nuclear spindle arrangement and amyloidity).

If the reader finds the speakers' chemistry and cytogenetics simplistic, a reminder: in fungal taxonomic and evolutionary analyses, comparative isozyme chromatography was just over the horizon, but use of DNA in taxonomy of fungi was still more than a decade in the future, whether RFLPs, DNA-DNA hybridization, ITS and LSU sequences, "barcoding," multigene phylogenetic trees, "next generation sequencing," and/or whole genome comparison. To be sure, such work would have displaced much of the advertised program, and has swamped traditional morphological taxonomy by the writing of this paper in 2022.

While space here limits extended discussion of most individual symposium papers, a few deserve some examination. One was by Donald P. Rogers (1971; Fig.32), a figure with a history in Donk's career. Under the title "Patterns of evolution to the holobasidium," the paper had an echo of Rogers' presidential address (see above), stressing the primacy of the basidium and especially its segmentation.

Fig 32. Donald Philip Rogers (Sept. 1965; Univ. Illinois). Source: Hunt Institute for Botanical Documentation. By permission.

[252] "As to hypotheses of the derivation of the simpler Basidiomycetes, most of us have been concerned with other things, nomenclature, or reasons for breaking up old genera and describing new ones. Few have had the temerity to attempt new evolutionary hypotheses, a point on which I share the feelings of the many." With this circumlocution pointed at Donk, Rogers closed his address, but not quite. In the bibliography, no papers by Donk appear. Of course, The paper was written before the symposium convened, so whatever bonhomie might have been attained 48 hours before, it was absent upon delivery.

Donk (1971b) used the polyporoid Hymenomycetes to reinforce his sermons of the prior decades. After the usual pruning in order to define the group in question, in characteristic fashion he chose sides: [394] "Radicals versus conservatives: ... Lloyd was a conservative in this sense of the word. The terror he spread by ridiculing everything that reminded him of taxonomic innovation in the systematics of fungi, and of the bigger Aphyllophorales in particular, has undoubtedly been a contributing factor to the wide cleft existing between the taxonomic thinking of European and North American mycologists. Another such factor was Murrill's failure to further a natural classification by excessive multiplication of artificial genera. This was a warning. ... [395] What Murrill did was to continue along the line the other splitters had followed before him: that is, to use characters by which Fries had subdivided genera. What was really needed were 'new' characters, such as some of those used by Patouillard, coupled with noteworhy disregard of the importance previously attached to

Fig 33. Dr. Rolf Singer. Hesler Symposium, 1968. Photo, Leo Tanghe

some of the old ones." One important "new" character suite was hyphal analysis, pioneered in the polypores by John Corner (1932a-c, 1972) which "has now become so commonplace that I can safely take it for granted that you know what the terms generative, skeletal and binding hyphae stand for, and that these hyphal systems enter into the formation of mono- di- and trimitc."

For many of the attendees, much less speakers, the climactic act would feature the agarics and their specialists. From the title of the symposium, opinions and data on agaric evolution (and devolution) could be expected. By this time, even the organizer was aware of the divarication of thought on the subject.

Singer's (Fig. 33) extensive international and interecological experience was unsurpassed. His title: "A revision of the genus *Melanomphalia* as a basis of the phylogeny of the Crepidotaceae," was clearly a taxonomic revision of the genus, with an elucidation of the character similarities with several "related" agaric genera. A key to species was included. The paper was an exercise in taxonomy.

In discussion, Donk detailed the repetitive changes necessary to the non-ballistic basidial forms in the Gasteromycetes to result in multiple lines of basidia of identical morphology and function in Agaricales. This progression seemed distinctly difficult to imagine.

Alexander Smith led off the final afternoon session (title: "The origin and evolution of the Agaricales"). His protracted history of sampling agarics had included individual "bursts" of basidiomata of selected genera; *Pluteus, Cortinarius, Galerina,* leading to a conclusion that such bursts represented gene pools in which a constellation of characters could be assessed simultaneously in a small area. Evolution of physiological habits could not occur before the substrate (i.e. wood, dung, mycorrhizal associates, etc.) was available. Special attention was paid to "the Asterogastraceous series."

Discussion was long and detailed. Hal Burdsall asked whether the forcable spore-discharge mechanism had evolved a second time in the Astrogastraceous

series, to which Smith replied that he thought this was the case; Rolf Singer asked if Smith would remove the Russulaceae from the Agericales, to which Smith answered that there could be the Russulales, Agaricales, and even other orders; Roger Heim added a lengthy summary of deviant Astrogastraceous forms dictated by hypogaeous or epigaeous habits. Discussion ended with numerous questions unanswered.

Roger Heim began his paper by stating that in the Hymenomycetes, there were the Agaricales, Asterosporales, and Boletales on one hand, and Aphyllophorales on the other. But his mission, he stated, was to expound on relationships between agaricoid and gastroid forms. A proposed phylogeny of the Asterogastracaeous series furnished suggestions of poroid, lamellate, and loculate hymennophores, epigaeous to hypogaeous habits, and forms with or without ballistosporic structures. This series, he stated [510] "... offers us one of the richest examples of the close ties that bring together asterosporous forms — gymnocarpic, angiocarpic, pseudoangiocarpic, and gasteroid-angiocarpic."

The formal speaker-discussion program ended. Activities, however, continued with a banquet and six days of fieldwork in the nearby National Park. Classic ecosystems were visited, among them Cades Cove, from which Hesler had described no fewer than 50 new taxa of agarics; the Spruce-Fir nature trail at high elevation, the southernmost extension of the Canadian Shield; Indian Creek, on the North Carolina side of the mountains; and the Roaring Fork Nature Trail, with mature hemlock-Rhododendron habitat. As we passed through the latter, Donk turned to Petersen and, pointing out the window, exclaimed "This is Djibodas!" a reference to the tropical forest of far-eastern Java.

With Symposium activities ended, Donk's performances surely did not detract from his reputation for depth and breadth of knowledge, but probably underlined both the beginning and end of the quotes which begin this chapter.

In a generous gesture, Alex Smith invited several of the attendees to join him at the Pellston, Michigan, Biological Station for some days of collecting. Donk participated before returning home (Burdsall to RHP, Olexia to RHP, pers. comms.).

CHAPTER 11. ELDER STATEMAN?

If, as contended above, "elder statesman" status carries with it invitations to act as host for reprinted editions of seminal works, Donk (1969a) acted the part for the volume of papers authored (singly or with others) by Miles Joseph

Berkeley, the 19th century English mycologist. Donk drew attention to three workers who contributed significantly to the description of "extra-temperate" fungi: E. M. Fries, J. P. F. C. Montagne, and M. J. Berkeley. The reprint volume included 62 decades of fungi, a prodigious output by any standard.

The fourth installment of "Notes on European polypores" (Donk 1969b) continued his retrospective of his thesis (Donk 1934). The paper dealt with only two names, *Ganoderma applanatum* and *G. australe,* although predictably, numerous other names were taken up.

Installment IV of the series (Donk 1969c) was cited (in installment III) although its number would seem to have appeared chronologically afterward. Donk: [237]: "Except in a few cases it has been impossible to associate the specific names discussed here with type specimens that are still preserved. This has necessitated thorough study of the protologues. ... Moreover, some of the species are themselves rather poorly known so far, even species that appear the most often in local lists." *Polyporus*, the genus name, was typified by a species exhibiting a stalked basidiome. The paper included a lengthy list of accepted species epithets and the synonymy of each.

One could easily infer that in the Hymenomycetes, wherever Donk looked he found confusion, questionable nomenclature, untypified names, and ignorance of historical literature, just as he had reported in 1941. Back-to-back with installment three of the European polpypore series, he launched into a new group (for him), the Cantharellaceae, with equal fervor (Donk 1969d). The paper opened this way: [265] "The few European representatives of this section belong to the most common mushrooms and it is therefore not very surprising, that they have been so badly confused that digging into their history and nomenclature drives even an old hand at such matters to utter despair. Not willing to accept defeat I have tried to bring some order out of the chaos, but I am not convinced that I have succeeded satisfactorily." It so happened that in the same issue of Persoonia, the lead paper by Petersen (1969b), also dealt with *Cantharellus*, although hardly the same infrageneric group.

As 1969 wore on, Donk's output continued apace. As part of his emphasis on polypores, he (Donk 1969e) aimed at Maria Fidalgo, the Brazilian mycologist, temporarily at the New York Botanical Garden. Fidalgo (1968) [38]: "Among the polypores there are very few names that were so much confused as *Favolus* and *Hexagona* [an alternate spelling of *Hexagonia*], and even before the nomenclatural starting-point these genera began to be mixed up. ...Genera based on so few microscopic characters can hardly lead to a natural arrangement of species; actually *Hexagona* was artificial from the very beginning..." She

enumerated the historical and taxonomic problems in similar species, and concluded: "My final conclusion is that *H. crinigera* Fr. is the Type [sic] of *Hexagona* Fr."

Quite in character, Donk broke Fidalgo's argument into four points, then dismantled each. He opined that *Hexagonia* had been used in (at least) three different ways by (at least) three sets of authors, only one of which matched Fidalgo's use. For Donk, the correct generic type for *Hexagonia* was *H. mori,* and this taxonomy left one of the species, *H. nitida,* without an appropriate genus. To fill this void he proposed a new genus, *Apoxona*.

The dust had hardly settled from the Hesler Symposium, when another new NSF program was announced, this one funding visiting scholars for up to one year. An initial query for interest in such an arrangement was met positively by Donk and a proposal was approved. He (and Uda) would be in residence in Knoxvlle from Summer of 1969, into Summer, 1970, and included attendance in Seattle for the 1969 International Botanical Congress.

Because the next months involved Petersen, more words are "penned" below on those anecdotal memories. Patience is requested.

The first item to be dealt with was housing — not far from campus, in a more adult community than students, and air-conditioned (especially from the standpoint of the searcher, probably not so much by colonialists from Java). Within a few days after moving in, though, Uda complained about the noise of the air conditioner under the bedroom window, an anachronistic situation given circumstances only a few months away (see below). The unit, of course, was replaced.

Once ensconced, Rien Donk and Petersen went shopping for a Volkswagen "Bug," apparently the Donks' mode of transportation at home. It was quickly bought, brand new, with no bargaining (perhaps a worldwide fetish except The Netherlands), and the Donks were ready to explore their temporary world. For Donk, this included time spent in the herbarium, the library, and when convenient, the field.

The trip to Seattle for the eleventh Botanical Congress had been anticipated. In those days, classes on campus did not begin until late September, so there was no conflict with the time away (for Petersen). One afternoon, however, Rien raised an issue not preconsidered. He was feeling guilty about what he viewed as "a free ride," and wondered what he could do to "earn his keep." After reassurance that no repayment was necessary, he continued. "Perhaps," he said, with just a touch of false modesty, "I could teach a course in nomenclature." Petersen was taken aback to say the least, and offered to see if such an

arrangement could be arranged. With help from the department head, it was so, and announcements were publicized. Some fifteen students enrolled — two afternoon hours a week on Thursday afternoon; copies of the International Code of Botanical Nomenclature were ordered.

The Congress was set to convene on August 24, normally a bit early for the mushroom season in northern Idaho. The rains usually commenced in southern Alaska and proceeded southward in the fall and early winter, finally reaching northern California by late November. Rains, and mushrooms, could be expected in September in Vancouver, British Columbia, and northern Idaho, where Alex Smith had spent several collecting seasons (with his entourage), ending only when the snow line came low enough to precede a hard freeze. Petersen had been part of the group and now wanted to introduce Donk to the Pacific Northwest. Moreover, a knowledgeable amateur mycologist, Kit Scates, lived in nearby Coeur d'Alene and could suggest likely locales. Housing was planned at the Forest Service's installation at Priest River Experimental Forest. Paul Olexia, former PhD in Petersen's lab, met Donk and Petersen in Spokane, Washington, and the three drove north into Idaho.

Almost immediately crises befell. Stopping at a supermarket in Priest River to stock up on food for a few days, Donk was totally unprepared to take his turn to cook, but Olexia generously substituted. Crisis averted.

Accommodations at the Experiment Station headquarters were assigned in the bunkhouse, a building perhaps 100 meters from the headquarters building, where desks and light-bulb driers were located. Bunks were distributed in two large upper-floor rooms, each with, perhaps, 6-8 beds. We each received sheets and blankets and Donk slowly made his bunk as though not accustomed to the task. But after everyone settled down for the night, the second crisis erupted. It seemed that Donk was a prodigious snorer! Not the slow exhalation of breath, but with the gusto of a chain saw. Petersen, at least, saw little sleep, not only from the racket in the room, but from resulting ire over the situation itself; but also the prospect of confronting his good friend and mentor in search of a solution. Morning finally arrived, Donk was informed and was truly mystified, but agreed to move to the other end of the hall. Crisis not averted, but solved with weak smiles all around (and effusive unilateral thanks) (Olexia to RHP, pro parte, pers. comm.).

While not prolific, fungi were common and the forays were worthwhile to show the area to Donk. One day, around noon, we found ourselves in the forest, having driven across a small brook. Over our pre-packed lunch, we sat on the wooden bridge, our lower legs hanging over the water. As we discussed

the differences between *Pleurotus* and *Pleurocybella*, Petersen took to tossing pebbles at a particular target a few meters downstream. Donk soon picked up an unspoken competition. Over the next several minutes we exhausted pleurotoids, pebbles, and lunch. A moment stored as a pleasant memory.

At one point, Donk remarked "It's not as though Zeus produced this mushroom fully formed, in all its beauty." Jocularly, I questioned his reference and he, equally lightly, offered that he was a pantheist. Insignificant, but revealing another dimension of his person.

Certainly, one of the most prolific mushrooms at that moment was *Cantharellus subalbidus* — large, very fleshy, firm, and usually without the common insect larvae. Paul Olexia volunteered to clean, slice and sauté up a meal, very tasty and appreciated. In due course, our time at Priest River ended and Seattle grew near.

As we drove across the state of Washington, we talked about the role of amateur mushroom hunters. At that time, mushroom clubs and societies were scattered throughout the Pacific Northwest. To meet the request for a guidebook to help in identification, Alex Smith (1958) had written and illustrated "The Mushroom Hunter's Field Guide." Already, a second and third printing had appeared, and more were surely on the way. Taking note, Lex Hesler (1960) had published "Mushrooms of the Great Smokies," which had also found local popularity. These guides had sought to fill a gap started early in the 20th century by the likes of Gibson, Atkinson, Kauffman, Hard, and Lloyd (Petersen 2020). Donk knew of these, as well as several European guides, and offered a pithy judgement: "You can be an amateur's mycologist, or you can be a mycologist's mycologist, but you can't be both." Advice from a member of the latter fraternity.

Classes had started on the UW campus, and Daniel E. Stuntz (1909-1983; Ammirati & Libonati-Barnes 1986) was conducting one of his patented teaching laboratories. We paid him a visit, not only to meet him (for Petersen, again) but also to take a look at his enormous personal mycological library. Dan was most gracious, as always, and invited us to sample the delicacies laid out under the lab windows. Dan was a recognized gourmet and before each lab session he visited chosen local shops to assemble a variety of baked goods and hors d'oeuvres for the afternoon students (and a few itinerant faculty). Before we left we inspected Dan's large iguana, a gift from two former students (Dave Largent to RHP, pers. comm.), in a glass enclosure outside Dan's office.

Seattle boasted a word-wide assortment of restaurants, and one day a small group decided on Japanese food that evening. I invited Rien to join us, but

he solemnly demurred. It took some time to remember his attitude toward all things Japanese. Skipping ahead, there was some concern when Donk visited Dick Korf in Ithaca, for Korf's wife was Japanese. Apparently, all went well. (Donald Pfister to HP, pers. com.)

In contrast to nomenclature sessions at Montreal and Edinburgh (see above), I cannot find a single mention of Donk's name in Starr's (1970) or Stafleu's (1970) reports of nomenclature at Seattle. Discussions on superfluous names, typification of generic names, and nomina generica conservanda proposita, all close to his heart, passed by smoothly. More than at previous congresses, numerous proposals were approved but referred to the Editorial Committee. Congress XII was planned for Leningrad (now St. Petersburg), USSR (now the Russian Federation), in 1975, an event to look forward to.

Return to Knoxville well before classes afforded time for the Donks to join other mycologists for a week's collecting in Michigan. Several days were spent in and near the Northern Peninsula, particularly in Tahquamenon State Park in Chippawa County. Roy Watling from Scotland, Jorge and Mrs. Wright from Argentina, Hal Burdsall, Mike Larsen, and Paul Olexia were among the participants. Watling reported that he walked with Uda in the Park. (Watling to RHP, pers. comm.)

It drew time for classes to commence: the "Masterclass" in botanical nomenclature began. In some ways, it was similar to a course in law school. First there is the law —the law presented in the International Code of Botanical Nomenclature. Then come the exceptions to that law, and finally, the cases which caused the exceptons; all sort of a polychotomous key. Donk began by pointing out that the Code was fashioned after English Common Law, which, when found wanting, was repaired, but not scrapped as it would be in French or Italian systems of governance. Especially Articles 6 and 7 (of the Edinburgh Code) — definitions and typification — occupied much time. Donk needed very few notes, having lived through cases testing every point, and his patience over questions was remarkable. He was a nomenclatural evangelist.

During their year in Knoxville, Rien and Uda took time to visit several points of professional interest, especially if personal friends were resident. Maas Geesteranus (1973) listed the following, with parenthetical notations of likely attractions added by RHP: Beltsville, MD (surely John Stevenson, his mycological library and the Lloyd collections), Chapel Hill (a look at the Coker-Couch herbarium, particularly Septobasidium, and perhaps an interview with Lindsay Olive over basidial nuclei), New York (the New York Botanical Garden

library, gardens, and herbaria, a visit with Clark Rogerson), Syracuse (Joe Lowe and his wife; it would not be surprising if there were a side-trip to Albany and the Peck Herbarium, and/or the visit to the Korf residence in Ithaca, NY), and Tucson, Arizona (hot, dry climate, perhaps conversation with Bob Gilbertson). The exact dates for their travel have been lost.

In November, when the Fall semester had only a few weeks remaining, it was obvious that Donk the teacher was not going to complete his coverage of the Code — in fact, the class was only at Article 23 (of some 75 Articles, a lengthy Appendix, and two "Guides"). Could we extend the course into the Spring semester? The class was enthusiastic and it was agreed to do so. Petersen's prior version had bulldozed the entire Code in a single semester.

But even as the spring semester wore on, the Code had not been covered under Donk's tutelage. Did we dare extend once more? Most of the class was more than willing to finish the job on a non-credit basis; the seminars ended only in early July, 1970, with the Donks almost boarding the plane.

Perhaps there are serious reasons why there were no papers by Donk dated in 1970. His absence from home would be an overriding one. There was, after all, little time to formulate texts, and even more important, absence from his vast databases. As the Donks departed from Knoxville in mid-summer, plans were already laid to meet again at the European Mycological Congress in Denmark that fall.

On September 20, 1970, hardly arrived at home, Donk presented a paper to the meeting of the Royal Academy (Donk 1971c). It was the latest in a series that could have been dubbed "Donk's polypore period." The first five installments have been noted above, but in 1971 another four were published. Number six (Donk 1971c) could have included "miscellany" in the title, for included were notes on genera and species, old and new taxa and new combinations. Having preached that all taxonomic considerations must precede the first attempt at nomenclature, each note was based on examination of the type specimens of generic type species to arrive at taxonomic synonymy, followed by nomenclatural considerations to arrive at the correct name of the organism and its genus. Just two months later (meeting of November 28, 1970), number seven (Donk 1971d) followed the plan of the previous paper. Collections from the United States were credited to his year at Tennessee, hardly more than a year previous.

The European Mycological Congress extended from September 18-25, 1970, in Copenhagen, with 83 participants from 18 countries. John Axel Nannfeldt was President, with Morton Lange, Chairman of the Organizing Committee.

Fig 34. European Mycological Congress, 1970, Field trip. Left to right (on ground): Lisa Hansen, Uda Donk, Per Onsberg, Hershenzahn. Standing left to right: Jacob Lange, Jorgen Koch, Vincent Demoulin, Hans Haas, Govi, M.A. Donk, Hauerslav, Leif Ryvarden, RHP, Judy Neilsen.

For Petersen, a one-day foray to Grib Sørø was central — an opportunity to see the European mushrooms behind the European names.

As a nod to mycological history, not only was Morton Lange, son of the famous Jakob E. Lange (Petersen & Knudsen 2022) present, but Morton's son, Jacob, was our luncheon cook during the field trip day (Fig. 34).

One recalled anecdotal incident involved Donk. Among the foray participants was a young, intense fellow specializing in puffballs and nomenclature (for fairness, he'll remain nameless). Donk's reputation as reigning nomenclature royalty provided not only a fount of knowledge, but a target who must bow to superior intellect. So Donk was followed in the forest and peppered with questions and opinions – "but what if" – oblivious of Donk's slowly eroding patience. "What about Secretan's names?" Finally, Donk turned and faced his antagonist: "Now, that's all," he barked. "Stop this." (RHP pers. obs.)

But the situation did not end. "[the young man] was very intense and persisting and when we had lunch (sandwiches and a small glass of aquavit!!) Donk asked me if I could help him to get rid of [young man] by pretending that I had seen an interesting *Lycoperdon* somewhere in the forest. Sure enough, I did so, and when we came back to the main road, Donk had gone 'into hiding' with some Danish mycologist and [young man] had lost his target." (Leif

Ryvarden to RHP, pers. comm.).

The next number in the polypore series (Donk 1971e), in bulk appearing less formidable than the others, took up fewer items, but one of them was a six-page discussion of *Grifola*. In the end, only *G. frondosus* was accepted as the correct name for the type species, but both genus and species names required explanation of history and acceptability.

For number nine, delivered to the Academy on May 22, 1971, the family Hymenochaetaceae was taken up (Donk 1971f). Only *Inonotus* and *Phellinus* were discussed, but the several species of the latter took up most of the paper.

In a small paper, Donk (1971g) commented on a paper by Erast Parmasto (1969), mycologist in Estonian SSR (now Estonia). The paper presented a phylogeny in which the basidiomycetous fungi were derived from resupinate forms. As an Estonian, Parmasto practiced under poor conditions — not Russian but under Russian surveillance. Parentheically, Parmasto wrote his dissertation in Latin, silently refusing to write it in Russian (Parmasto to Pfister to RHP, perss com.)

One could have hoped that the 1968 Hesler Symposium volume (Petersen 1971) would be published rapidly, for its contents were timely, "in-press" time for research papers was sensitive, and Hesler was already 80 years old in 1968. But personal relationships became involved. The Director of the University Press was a long and personal friend of Hesler, and forcefully pleaded that the Press would make a volume that Hesler could be proud of. Then, editing the presentations and especially the discussions took too much time. Petersen argued also that while the Press had a fine reputation for historical reviews and literary works by highly praised authors, it had none in scientific fields, making the volume difficult to advertise. The University Press won, and time wore on. It would be three years before the volume appeared, and then was hardly publicized to an appropriate audience, sales were poor, the volume ran a strong deficit, and eventually was overstocked. It was a financial failure and a major postponement of valuable contributions from the speakers. "Dean" Hesler lived long enough to receive the first ceremonial volume, and gratis copies were sent to all speakers.

The audio-tapes of speakers and discussions reside in the special collections of the New York Botanical Garden, but even those are fraught. The local FM radio station, WUOT, produced the tapes (in 1968), but for economic reasons, used 8-track, half-inch tapes. Classical music filled six of the eight tracks, easily sorted with an 8-track tape machine, but virtually impossible without. In the years since their production, 8-track machines have become almost extinct,

and the tapes face an uncertain future. They furnish the voices of mycologists long gone.

Single-handedly at first, GC Ainsworth had gathered interest from several British mycological groups, including the British Mycological Society, in an effort to hold an International Mycological Congress (Simmons 2010). If, as wished, a formal society would be formed at the Congress, it would be titled as the International Mycological Association (IMA). Soon, enough enthusiasm swelled to make announcements and issue invitations. The Congress was held in Exeter, Devon, September 8-15, 1971, with some 750 attendees from 45 countries. Officers of what became shortened to IMC-1 were Cecil T. Ingold, President, and Percy W. Brian, Phillip H. Gregory, and Lilian E. Hawker as Vice-Presidents. Papers were delivered on numerous topics, and informal sessions took place to plan for future organization and congresses.

The only evidence of Donk's attendance is apocryphal. First: as might be expected, the first gathering was a general reception of all attendees. Small clusters of friends were rife, and conversation convivial. Donk was seen holding a glass in one hand while talking, and at some point, he backed up slightly and bumped shoulders with someone directly behind him – Donald P. Rogers! The two whirled to apologize, but instant recognition caused abrupt reverse turn by Donk. The two did not speak (Rogers to RHP; C Bas to RHP, pers. com.).

Second: in what now appears to be more retrospective research, Donk introduced two significant papers to the Royal Academy upon his return. The first (Donk 1972a) harked back again to his thesis (Donk 1931) on the Heterobasidiomycetes. Donk: [366] "The immediate occasion for writing this series of papers was a symposium of the First International Mycological Congress held at Exeter ... The introductory paper read there was an excerpt of the notes assembled in the present set of papers." The paper considered the relationships among rust, smut, yeast and heterobasidiomycetous Hymenomycetes and revisited basidial terminology in the group.

The eleventh installment of the polypore series (Donk 1972f), this one taking up some species of *Tyromyces*, stemmed from his friendship with Josiah L. Lowe. Lowe (1956) had studied several type specimens of P. Karsten's collections in the Helsinki, Finland, herbarium; Lowe's notes and personal material were shared with Donk about a year before. Moreover, Lowe had developed a personal interest in *Tyromyces*, and would publish a monograph later (Lowe 1975).

As the calendar turned from 1971 to 1972, Petersen received an invitation from Donk, who proposed that Petersen (and family) spend the fall (1972) in

Leiden, where Petersen could have the library, herbarium, and Donk's office (and, of course, Donk himself) for a semester of work. They could start with three infra-European forays before migrating to Leiden.

CHAPTER 12. THE DEATH OF DONK

The overnight flight from Atlanta to Paris on Saturday, September 2, 1972, brought the Petersen family (Ruth, Ron and five-year old son, Chris) to Europe by mid-morning. After a lay-over at Charles de Gaulle, they endured a short flight to Zürich. So far, the plan was working. A rental car, an evening and night near Zürich airport and a half-day drive were accomplished by late afternoon on Sunday. Plans were to meet Rien Donk in the small town of Brienz on the banks of the Brienzersee, for the Swiss Mycological Foray. The contact person was a chap named Edwin Schild. Once in Brienz, Petersen dialed Schild's telephone number and was greeted warmly by Edwin, himself.

Now, it must be confessed that Petersen's German consisted of dim memories from two sources: a year of college German with no better than average grades, and phrases uttered by grandparents, to which they referred as Plattdeutch, the language of the common folk. And, as luck would have it, Schild spoke no English, so only rare words were understood at either end of the phone line. "Mein Name ist Petersen." Petersen heard "Willkommen," which seemed pleasant, so he ventured to ask "Ist Donk hier?" "Nein," came the reply but the next words were strange. "Donk ist gestorben," seemed part of the sentence, but that was surely a misunderstanding. Petersen: "Gestorben?" (incredulously). Schild: "Ya, ya, gestorben." Peteren: "Tot?" Schild: "Ya, Gestern." Two or three exchanges brought only confirmation – Donk was dead; he died yesterday.

The conversation ended — Schild would come to the inn with an English-speaking friend. And, indeed, they were there within a few minutes. In the meantime, it was a horrific task to convey the message to Ruth, and agree that we were in a very difficult predicament.

Schild's friend was not fluent in English, but the message was clear. Donk was dead. He had died on Saturday, after an operation. Someone from Leiden was coming to help us through the next days, and everything was arranged for us in Leiden.

Edwin Schild was found to be an uncommon Swiss person who knew no English. As he became a friend over the next years, his letters, always starting with "Lieber Ronald..." signaled an afternnon with the Grman-English dictionary. But conversation, though requiring repetition, was possible, and

the next morning, Joop van Brummelen, the Ascomycete man from Leiden arrived to counsel with us. He did not know the details of Donk's death, but he (Joop) would lead us to Trento, Italy, in a few days, to join the Gruppo Micologico Bresadola. After that, we would report back to Leiden, and they would show us our housing and help get us settled. Words warmly heard, and greatly appreciated.

It was Cas Bas, the agaric man at the Leiden herbarium, and apparently Donk's closest friend there, who explained the circumstances of Donk's death.

During the summer, Donk began experiencing troubling symptoms of kidney failure. This was, apparently, not uncommon among the former inmates of the Japanese prison camps during World War II, and doctors had grown used to seeing this syndrome. In dire cases, a kidney was removed and the patient often lived quite normally as long as some dietary cautions were observed. Donk seemed better, until mid-August brought another attack, and this time, his doctor delivered an ultimatum — immediate emergency kidney removal. Donk flatly refused: he must have a day or two to arrange his affairs at the herbarium. The doctor reluctantly gave him 48 hours.

Donk conveyed all this to Bas, but also predicted his own death. Everyone he knew that had had this operation, had died, he said — of an embolism. Bas protested: there were many such operations and he had never heard of death by embolism. Donk was unmoved, but assured Bas that he (Donk) was fully prepared. And with that, the operation was set for Wednesday, August 30.

According to Uda, when Rien was being wheeled to the operating chamber on a Guerney, she walked next to him, and he said, "Don't worry, Uda, the manuscript is with the printer." And with that, they parted company.

The operation was successful; Thursday, as expected, Donk rested, and Friday, Bas found him sitting in a comfortable chair, apparently quite well. Donk, however, was stressed and ordered Bas to take notes for the disposal of his mycological library upon his death. Bas protested, repeating that Donk was healthy; after all, he was already sitting up and his color was good. Donk persisted, so Bas took notes.

Early the next morning, Saturday, September 2, 1972, Donk died — of a pulmonary embolism.

The formula for the disposal of his library was somewhat complicated, and extremely time-consuming for Bas. Everything was to be sorted, and all books were to be appraised. All reprints were to be divided into four categories: all agaric material was to go to Bas; material on resupinates was for John Eriksson in Sweden; all material on clavarioids, cantharelles, and nomenclature was for

Ron Petersen in Tennessee; all ascomycete material was for Joop van Brmmelin. When the books had been appraised, the same four mycologists were to be offered anything, at half price. When those selections were completed, the rest of the books were to be offered to C.G.G.J. van Steenis (Director of the Herbarium) AT FULL PRICE, reflecting Donk's distaste for the man (all this, C Bas to RHP, pers. comm.).

On the last page of number XI of the polypore series, Maas Geesteranus inserted: "For the last five or more years of his life, he worked assiduously towards the completion of a manuscript entitled "Checklist of European polypores.' This magnum opus, into which went a life-time's knowledge and experience, will probably be published in 1973." Indeed, the book (Donk 1974) was seen through the press by Maas Geesteranus.

Photo J. van Brummelen)

FIG 35. Marinus Anton Donk. Source: Maas Geesteranus, 1973.

CHAPTER 13. EPILOGUE

During the June before his death, Donk communicated two papers to the Royal Academy (Donk 1973a, b). With another (Donk 1974), they filled out the Heterobasidiomycete series. Two other brief papers were vintage Donk. In one (Donk 1975a) he disagreed with Riedl (1968) and Hawksworth (1970), who held that *Racodium* represented lichens of which the fungal component was without sexual organs. The other examined the generic fungal names found in a volume by Maratti (1822), which appeared shortly after the starting point for most fungal nomenclature. With these publications, his direct contributions ended.

At the time of his death, Rien Donk was only a year away from retirement age. He would have appreciated the irony of being outlived by so many who played important roles in his life. He would not see the growth and maturity (and rivalry) of the International Mycological Association and its journal, IAMFungus, just down the road in Utrecht. Whether he would have maintained the same stature in IMA as he had in IAPT remains unknown. How many more papers could have been produced from his databases cannot be estimated, but there is little evidence that the card files have been searched or mined since he knew them so well.

There is, of course, a temptation to narrate mycological events which followed the text above. This paper is testimony to the persistence of Donk's persona, but an intimate knowledge and use of the Code of Nomenclature would see his footprint; polypore and heterobasidioid taxonomy could not operate without his reprints on the shelf. But the man is no longer with us, so this story draws to a close (Fig. 35).

Donk's free use of his protagonist's names could be accounted for as a well-known Dutch tendency of plain talk, bluntness, perhaps especially in Donk's day. To unfamiliar ears, it would have been easy to take offense (Donk language 2022), but such offense might not have been intended, but no sign of apology has been found.

Acknowledgements

This lengthy manuscript passed under the eyes of two reviewers, Drs. Donald Pfister and Amy Rossman. Their corrections, large and small, left almost no page untouched. The result was an improved paper; mistakes are my own, but their positive comments have melted into the text. Thank you to both.

The memory of Lorelei Norvell weighs heavily on this narrative. Her incapacitation and eventual death accounts for the dates of writing (2022) and the date of publication (2024). She is sorely missed. Noni Korf's generous offer to publish a single "supplement" is gracious and deserves a special expression of gratitude.

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